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Review of "Geophysics Articles" in the Journal of the Nigerian Association of Mathematical Physics. Volumes 1-38

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Abstract

The review of various geophysical methods that appeared in the Journal of the Nigerian Association of Mathematical Physics is herein undertaken. The review covered the period of 1992 to 2016 (vol. 1-38). The aim of the review is to have a firsthand information of the respective geophysical methods adopted by the various Authors in the geophysics articles of the Nigerian Association of Mathematical Physics Journal. The review has been tabulated into five columns bearing the sub-titles: volume, author(s) and date, location, title and page, and comments.

1.0 Summary Table

Volume in J.NAMP	Author(s) and Date	Location of Study	Title and Page of Article	Comments by Reviewer
1	Asokhia, (1992)		A magnetotelluric method for determining aquifer depth. 87-94	From the study he obtained the aquifer depth to be 38 m at the Blue Road.
2	Egbai and Asokhia, (1998)	Delta State	Correlation between Resistivity survey and well-logging. 163-175	They ascertained that there was a high degree of correlation between driller's logs and spontaneous potential logs.
3	Asokhia *et al.* (1999)		Computation of the Kernel Function by Inversion of Resistivity Field Data from Schlumberger Configuration. 193-207	His study show that the interpretation of kernel function agreed very satisfactorily with well logs in this area of Edo State.
	Egbai, (1999)	Atala River State	Noise Reduction and Cancelling Stationary Sinusoidal Noise in Seismic Data Acquisition in Atala Prospect. 208-221.	The method used effectively cancels sinusoidal noise in the semi data leaving the signal.
4	Egbai, (2000)	Agbor, Delta State	Estimation of Formation Temperature from Borehole measurement. 243-256.	The study show that the new inverse procedure reveals the true formation temperature can be estimated from both synthetic data and field data.
	Asokhia *et al.* (2000)	Umuduruokoro, near Owerri, Imo State.	A simplified Computer Iteration Technique for the Interpretation of Vertical Electrical Sounding. 269-280.	They ascertain that the driller's log for the borehole drilled from this survey was in perfect agreement with the result of this geophysical investigation.
	Asokhia (2000)		Estimation of Magneto-Telluric Noise by Method of Polarisation Analysis. 281-288.	His results were so close that one could be substituted for the other within limits of experimental error.
	Ujuanbi and Asokhia, (2000)	Afuze and Eme-Ora, Edo State.	Interpretation of Vertical Sounding at Afuze and Eme-Ora Using Resistivity Transform Functions. 289-300.	Their three sets of results- the available driller's logs, the geophysical logs and the interpretation by method of kernel function all correlated very well within limits of experimental errors.
5	Ujuanbi and Asokhia, (2001)	Ozalla and Sabongida-Ora	The Vertical Electrical Sounding: A viable tool for the investigation of clay deposits. 79-88.	The result shows that the overburden sand at Ozalla is above 35 m and at sabongida-ora 3.8 m with a clay thickness of over 50m.
6	Egbai, (2002)		Computation of Resistivity Transform Derivatives in Geophysical Sounding. 207-222.	He used field data into computer programme where theoretical as well as field curves were generated and anlysed.
7	Egbai and Ekpekpo, (2003)		Migration Velocity Analysis by Fourier Transform in Seismic Processing. 147-154	The velocity analysis described does not handle lateral variation in velocity.
	Egbai and Ekpekpo, (2003)		Resistivity Inversion-A Computer Iteration Technique for the Interpretation of Vertical Electrical Sounding. 155-168.	They ascertain that the iteration technique is very economical in that it saves cost, energy and time.

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8	Ochuko, (2004)		The use of third degree polynomial for accurate conversion of seismic time to depth and vice versa. 241-246.	His result showed that the third degree polynomial is a more accurate means of converting the values of seismic time to depth than the use of velocity information.
	Ezomo and Ifedili (2004)	Egoro-Amede, Ekpoma	Application of Schlumberger Array of Vertical Electrical Sounding to detection of water bearing formation. 247-252.	They discovered that the water bearing formations are probable sands, sandstones, gravels and or sands with clay intercalation
	Egwebe and Ifedili, (2004)		The effect of seasonal variation on the consistency of resistivity data. 253-258.	The study was done during wet and dry seasons and their results were highly correlated.
	Egwebe and Ifedili, (2004)	Idogun and Lonla	Non-uniqueness in the interpretation of resistivity sounding-I. 259-264.	They ascertained that VES method is a better alternative than the drilling of control boreholes to acquire logs which has been the practice.
9	Egwebe and Ifedili, (2005)	Idogun and Lonla	Non-uniqueness in the interpretation of resistivity sounding-II. 431-436.	The accepted geoelectric sections for the other VES curves were confirmed by simple comparison of the sections with the logs of boreholes drilled at the location during the second phase of the field work.
10	Otobo Egwebe, C.O. Aigbogun and S.O. Ifedili (2006)	Agbede	An Investigation of Groundwater Condition in Agbede by Geoelectrical Resistivity Method (71 -76)	Vertical electrical sounding method was engaged. Their investigation showed from the VES geoelectric sections that the Ajali Formation could not be encountered even at a depth of 494.03m. There was an indication of clay thickness of 500m.
10	Otobo Egwebe (2006)	Jeddo, Delta State	Application of Geophysics in Environmental Impact Assessment: A case study in Jeddo, Delta State, Nigeria. (77 – 82)	VES method was used. The study was carried out for the purpose of subsurface investigation in environmental impact assessment.
10	E.C. Okolie, F.C. Ugbe and J.E.A. Osemeikhian (2006)	Amai and Obiaruku, Delta State	Characterization of Formation and Groundwater Potential of Amai and Obiaruku in Delta State using Resistivity and Seismic Refraction Measurements (83 – 90)	Their study showed that obiaruku have QA and HA curve types and Amai consists of A – type curve. According to them, groundwater was found at a depth of 45 – 50m in Obiaruku (unconfined aquifer) and 20m deep in Amai but confined aquifer.
11	Otobo Egwebe and Francis Daudu (2007)	Orifite, Anambra State	Geophysical Investigation for Groundwater in Orifite, Anambra State, Nigeria. (379 – 386)	VES method was used. The results of the interpretation they carried out identified perched aquifer within the Ogwashi – Asaba Formation at 35 – 57m deep with resistivities 170 – 5595 Ωm. Their result also showed a second aquifer within Nanka sand at depth 151 – 239m of resistivities 574 – 6750 Ωm
11	Otobo Egwebe and C.O. Aigbogun (2007)	Delta State, Nigeria	Geophysical Study of the Aquifer Characteristics along River Niger, Delta State, Nigeria (387 – 392)	VES method was used. The study results showed a recommended aquifer of thicknesses of 14.40 – 68.75m at depth s 21.65 – 34.20m and clay thicknesses of 0 – 10.80m above it.
11	E.C. Okolie, F.C. Ugbe and B.O.Uyouyou (2007)	Imo State, Nigeria.	Analytical Determination of Low Velocity Layer in 4 – D Hydrocarbon Prospecting in parts of Imo State (393 – 402)	Up – Hole survey method was adopted in their study. Analyses of results showed a three layer zone in the study area.
11	K.O. Ozegin, D.O. Isiwele and S.O. Azi (2007)	Oke Agbe, Akoko North – West LGA, Ondo State, Nigeria.	Groundwater potential investigation using combined VLF and VES (403 – 410).	VLF and VES methods were used in this investigation. Both methods were used to determine overburden thickness, geoelectric layers and groundwater potential.
11	K.O. Ozegin, S.O. Azi and D.O. Isiwele (2007)	Oke – Agbe – Oyin Road, Ondo State, Nigeria.	Geophysical investigation of Oke – Agbe – Oyin Road failure using VLF and double dipole. (411 – 414).	The study showed that the form of road failure identified is due to subsidence arising from differential settlements associated with clayey, fairly thick, geotechnical weak and low resistivity near surface horizon.
12	Otobo Egwebe and U. Okezie (2008)	Along river Ethiope, Delta State, Nigeria.	Geophysical study of the aquifer characteristics and its environmental implications along Ethiope, Delta State, Nigeria. (237 – 244).	The method used is electrical resistivity method. The results showed a fresh water aquifer at depths 20 – 55 m.
12	Otobo Egwebe and C.O. Aigbogun (2008)	Warri, Delta State, Nigeria.	Geoelectrical study for ground water in waste dump sites: A case study of Warri and its environ, Delta State, Nigeria. (245 – 250).	The Schlumberger VES method was used for this study. The results of their study revealed that the aquifer around Warri dump site location has no sealing overburden but the one at DSC has a thick clay soil overlying it.
12	Abraham Iyoha, Robinson Okanigbuan and Anita Iziegbe Evbuomwan (2008).	Sabongida – Ora, Edo State, Nigeria.	Vertical electrical resistivity soundings to locate ground water resources in Sabongida – Ora: A feasibility study. (251 – 260).	VES method was used in the study. They carried out three vertical electrical sounding using Schlumberger electrode configurations.
12	E. Eddy Aigbekaen and Fidelia Ighrakpata (2008).	Ivorri – Irri, Isoko South LGA, Delta State, Nigeria.	A geoelectrical investigation for groundwater at Ivorri – Irri in Isoko South Local Government Area of Delta State. (261 – 266).	VES method was used in the study. From their investigation, the interpretation of the resistivity sounding data indicates a depth of 124m for VES1 and 182m for VES2 to the aquifer.

12	V.C. Ozebo, O.O. Odusote, G. Omisore and A.I. Ibiyemi (2008).	Omolayo area, Ibadan, Nigeria.	A geophysical study of structural foundations in Omolayo area, Ibadan, Nigeria. (267 – 278).	VES method was used in the study engaging the wenner electrode configuration. The study reveal that the entire area is confirmed for super – structures or high – rise buildings.
12	O. Ujuanbi, S.I. Jegede, F. Osayande and C.O. Molua (2008).	Niger Delta, Nigeria.	Poisson impedance as an enhanced litho – fluid discriminator using cross plot analysis. (279 – 284).	Seismic and Well logs methods were adopted in this study. Their results showed that Poisson impedance as a discriminatory tool between fluids and lithology have a higher amplitude resolution than the fluid factor and the inverted acoustic impedance.
13	Ujuanbi et al.(2008)	Niger Delta	Enhancing refraction statics correction from first break interpretation-the Niger Delta example.391-396	The result showed that to maximize first break interpretation using the generalized linear inversion method, the uphole information regarding the actual number of layers and velocities should be incorporated into GLI3D scheme.
14	Ezomo and Akujieze (2009)	Ovbiogie	Geophysical determination of buried structural features at Ovbiogie village, Edo State, Nigeria. (177-180)	The result obtained showed deposition of geophysical structures in the area.
14	Alile and Ujuanbi (2009)	Ekpoma	Application of Dar Zarrouk parameters to evaluate aquifer transmissivity in Ekpoma, Edo State, Nigeria. (239-248).	The average electrical properties of each unit in layered geoelectric sections were described by the Dar Zarrouk parameters and a coefficient of anisotropy λ.
15	Atakpo (2009)	Olomoro	Groundwater and contaminant flow modelling in Olomoro area of Delta State. (205-212)	The modelling result gave average groundwater flow velocity to be 388m/year
15	Usifo et al. (2009)	Ugbogui	An investigation of groundwater by geoelectrical resistivity method: A case study in Ugbogui Ovia South west LGA, Edo State.(317-3280	The result confirmed the aquifer at Ugbogui to be in sedimentary basin.
15	Okolie (2009)	Niger Delta	Velocity profile and subsurface stratification in oil and gas exploration in parts of Niger Delta (329-336)	The results showed that the consolidated region is mainly compact clay sand stone, shale argillite and weathered fractured rocks.
16	Ozebo and Olowofela (2010)		Radio and very low frequency (VLF) electromagnetic response of a layered earth media with variable dielectric permittivity. (375-380)	Their result revealed that the dielectric permittivity has greater influence on the response parameters.
16	Ezomo and Akujieze (2010)	Agbor	Geophysical Investigation of Ground-water in Agbor of Delta State, Nigeria. (597-602)	The resistivity of the aquifer detected varied from102.4 Ωm-100,000Ωm
16	Ezomo (2010)	Agbor	Geophysical study of clay deposit properties in Agbor Area of Delta State. (603-316)	Area of probable clay formation and their thicknesses were identified.
17	Aigbogun et al. (2010)	Ugha and Ehor	Aquifer characterization in Ugha and Ehor Environs, Edo State, Nigeria. Using Vertical Electrical Soundings. 35-38.	The result of the analysis of data indicated that there exist thick aquifer in the area of survey
17	Okan (2010)	Niger Delta	Application of Migration Velocity Using Fourier Transform Approach to Process 3-D Seismic Data. 39-44.	From his findings, it shows that qualitatively how geological interpretation can be facilitated from the seismic sections thus implementing the physics of wave propagation.
	Okan (2010)	Northern Part of Edo State	Geoelectrical Sounding Survey for Aquifer Determination in Some Northern part of Edo State. 45-52.	The study was able to established groundwater potentials at Auchi and Igarra.
	Ezomo (2010)	Igarra, Edo State	Geophysical Survey as a useful Instrument for Determining Subsurface Lithology in Igarra, Edo State, Nigeria. 403-408.	The findings correlated with the geologic and lithological data/log acquired from the survey area.
	Ezomo (2010)	Auchi, Edo State	Vertical Electrical Sounding as a viable Tool for Investigating Subsurface Lithology at Auchi, Edo State of Nigeria. 409-414.	Area of probable subsurface lithological formations and their thicknesses were identified.
18	Popoola *et at.* (2011)	Aba-Eku, Ibadan	Geophysical Investigation of Effect of Public Refuse Dump Site. 111-118.	They found out the low resistivity values around the dumpsite is an indication of groundwater pollution. This was confirmed by the laboratory water sample analysis from the vicinity of the dump site.
	Popoola *et at.* (2011)		Modelling the flow of Water in Stratified Layers of Sand. 119-130.	Their result showed that the theoretical and experimental value were found to be appropriate.
	Ezomo and Akujieze (2011)	Isihor Village, Edo State, Nigeria.	Geophysical Study of Lithologies Attributes at Isihor Village, Edo State, Nigeria. 131-136	Their results were in agreement with the available borehole/drillers log records of the area.
	Ezomo and Akujieze (2011)	Isihor Village, Edo State, Nigeria	Geophysical Study of Aquifer Properties at Isihor Village of Edo State, Nigeria. 137-142	From the study probable area for future drilling for groundwater potential was ascertained.

	Obinabo and Anukwu (2011)		A Deterministic Approach to Noise Attenuation in Oil and Gas Seismic Data Acquisition 563-568.	They were able to develop a conceptual simplicity of parameter and state estimation by a least squares computational algorithm.
19	Okan and Osazuwa (2011)	Northern Parts of Delta State	Some Results of Geoelectrical Sounding for Aquifer Determination in Northern Parts of Delta State, Nigeria. 315-320.	Depth sounding were carried out in three locations and they observed groundwater potential in the areas.
	Aigbogun and Eromosele (2011)	Ologbo and Ajoki, Edo State	Geoelectric Investigation for the Delineation of the Subsurface in Ologbo and Ajoki, Edo State. 329-334.	From the study, the curve types identified for the location were: KQH, HAK, KHK, HK and KH. Smooth and equivalence earth layers were encountered.
	Ezomo (2011)	Abudu, Edo State	Geophysical Prospecting of Clay Deposits in Abudu Area of Edo State, Nigeria. 335-342.	The result showed that clay and clayey soil (mixture of clay and other rock types) were intercepted at a depth varying from about 9.75 m to infinity below sea level.
	Ezomo and Akujieze (2011)	Abudu, Edo State	Geophysical Exploration of Gravel Deposits in Abudu Area of Edo State. 513-518.	From their result, it showed that gravel deposit was intercepted at a depth varying from about 25.0 m to 140 m below sea level.
20	Ozegin *et al.* (2012)	Southwestern Nigeria	An Engineering Foundation Investigation using the Geoelectric Method: A case Study Southwestern Nigeria. 245-248.	In their study, the underlying subsurface was made up of sand, loose sandstone and shale layers respectively.
	Ozegin and Oseghale (2012)		Geomagnetic and Geoelectric Determination of Topography and Depth of Constituent Bedrock in a Complex Environment. 343-348.	In their findings, the presence of depression was observed between two high relief bedrocks establishing the presence of an undulating topography with the range in depth to bedrock being 2-20 m
21	Aigbogun and Osarenren (2012)	Southern Part of Edo State	Geoelecric Estimation of Aquifer Parameters in the Southern Part of Edo State, Nigeria. 355-360.	The results showed that the aquifer parameters; transmissivity has the range of (64.6-1064) m2/day, hydraulic conductivity (2.1-8.3)m/day and resistivity (115.5-18111.8) Ωm respectively.
	Alile (2012)	Igieduma, Edo State	Subsurface Geoelectrical Investigation of Groundwater Potential in Igieduma South-Southern Nigeria. 365-372.	The study showed that the area have groundwater potential.
	Ozebo *et al.* (2012)	Gombe, North Eastern Nigeria	Depth Estimation of Aeromagnetic Data of Gombe, North Eastern Nigeria, using the Method of Analytic Signal	The depth of the magnetic source of the region was determined using Analytic Signal to be 15.5 km.
23	Alile *et al.* (2013)	Niger Delta	Detremination of Depositional Parameters by the Analysis of Microfossils in Hydrocarbon Exploration and Production. 229-238	The tentative sequence stratigraphy obtained from the condensed section dated by the Maximum Flooding Surface confirms an early Paliocene to late Miocene age.
	Aku (2013)	Northwest Nigeria	Geophysical Analysis of Gravitational Attraction of Metasedimentary and Metavolcanic Rocks in Northwest Nigeria. 525-534.	Relative gravity measurement were carried out. Depths Estimates Obtained are comparable with results obtained in similar environment in other parts of the world.
	Alile *et al.* (2013)	Ota, Ogu State	Application of 1-D and 2-D Electrical Resistivity Methods to Determine the Depth of Aquifer around Camp House in Canaan land, Ota, Nigeria. 541-548.	The result from the curves indicate groundwater potential in the study area.
24	Ezomo *et al.* (2013)	Esan N.E., Edo State.	Geoelectric Investigation of Groundwater Quality in Four Communities in Esan North East LGA, Edo State, Nigeria. 499-504.	Empirical analysis showed evidence of pollution from chemical sources with evidence of high level of nitrite in Arue and Eguare.
	Alile *et al.* (2013)	Niger Delta	Structural Interpretation of 3-dimensional seismic data for petroleum exploratory well location in Aso field, Niger Delta, Nigeria. 265-272.	The geometry of the ancline structure in 3-D was displayed and also the point to cite the proposed exploratory well was indicated in the structural map.
	Alile *et al.* (2013)	South-South, Nigeria	Geoelectric Subsurface Imaging for the mapping of Leachate and Contaminant plume around a Dumpsite near Capitol, University of Benin, South-South, Nigeria. 273-278.	This study reveal that due to several factors, leachates do not exist outside the dumpsite and therefore do not pose a threat to groundwater in the study location.
25(1)	Osejin (2013)	Utagba-Uno, Delta State	Investigation of groundwater Resources and Aquifer Characteristic in Utagba-Uno Area, Delta State, Nigeria Using Subsurface Geoelectric Sounding. 157-172.	From the Survey, groundwater flows towards the southern part of the region. Therefore dumpsites be cited within the southern part of Utagba-Uno.
	Agha and Nnabo (2013)	Nkwegu, Ebonyi State	Lithologic Deduction from Resistivity Studies in Nkwegu, Nigeria. 183-186	The result indicates that the first four layers of Nkwegu are made up of lateritic overburden, wet feruginised clay and consolidated wet shale accordingly.

	Kanu *et al.* (2013)	Girei LGA, Adamawa State	Laboratory Measurements of Electrical Resistivity of Rocks from Girei LGA, Adamawa State, Nigeria. 203-214	From the electrical resistivity survey, the orientation of the water wet pores results in low electrical anisotropy values from 1.2:1 to 1.7:1. Results further showed that resistivity decreases with increases time of water saturation.
	Ezomo *et al*, (2013)	Esan N.E. LGA, Edo State	Assessment of groundwater quality in five communities in Esan North East LGA of Edo State, Nigeria. 215-220.	The study reveals the following: the selected hand dug wells in Uromi is not safe for consumption because of high nitrite which was above the permissible limits recommended by WHO for drinking water.
	Usifo and Akinnawo (2013)	Crawford University, Igbesa, Ogun State	A search for aquifers in Crawford University, Faith City, Igbesa, Ogun State. 221-226.	From the Resistivity study, it was confirmed that the aquifer in Crawford University is mainly sedimentary.
	Usifo *et al.* (2013)	Idi-Ayunre, Ibadan	A geoelectric survey in cocoa reseach institute of Nigeria (CRIN) Idi-Ayunre, Ibadan. 227-238.	Within their coordinates of Investigation, the interpretation and analysis of VES data showed that there are suitable aquifers that can be tapped for boreholes.
	Usifo (2013)	Awa-Ijebu, Ogun State.	Groundwater Exploration in Awa-Ijebu, Nigeria, Using the resistivity Method. 239-250.	His interpretation of the resistivity curves over the study area indicates that the area have groundwater potential.
25(2)	Olawuyi and Abolarin (2013)	Ilorin Area, Kwara State	The Use of Electrical Resistivity Survey in Locating Aquifers in Ilorin Area of Kwara State, Nigeria. 73-80.	Their results from actual depth from boreholes drilling was in agreement with results obtained from literature. Their results also confirmed the already known geological units of the western Nigerian basement complex terrain.
	Dawodu (2013)	Ogwashi-uku, Delta	Geo-electric Investigation of Groundwater ondition: A case study of Ogwashi-Uku in Delta State. 81-88.	His study showed that the viable Aquifer is within 106 m-205 m.
26	Agha (2014)	Abakaliki, Ebonyi State	Groundwater exploration and exploitation in parts of Abakaliki, Nigeria, using direct current resistivity method. 267-272	Their investigation showed that there is very high probability of success for exploitation for underground water from the area.
	Alile *et al.* (2014)	Niger Delta	Uphole Seismic Refraction Survey for low Velocity layer Determination over Oga Field, South west of Niger Delta, Nigeria. 277-288.	From their analysis and interpretation, the weathering velocity and thickness on the prospect area are in correlation with what is obtainable in the Niger Delta weathering statistics.
	Salufu *et al.* (2014)	Niger Delta	Analytical method for predicting pore pressure and corresponding depth using well and seismic Data: A Niger Delta Scenairo. 528-540.	The study shows that mineral compositions of rock are not the same in both vertical and horizontal directions; hence anisotropic factor is required for it correction in order to have accurate pore pressure prediction.
27	Osejin (2014)	Orogun, Delta State	Application of Vertical Electrical Sounding Method to Decipher the Existing Sub-surface Stratification and Groundwater Occurrence Status in Orogun Main Town, Delta State, Nigeria. 301-314	From his study, the geoelectric section revealed that Orogun is an entensive medium grain to coarse grain sand formation with resistivity values of between (1000-2600) Ωm with thickness that ranged between (30-35) m.
	Osejin (2014)	Patani, Delta State	Earth Resistivity Measurement for Groundwater Distribution in Patani Area of Delta State, Nigeria. 315-322.	The study showed that borehole could be drilled to a depth of 20 m in Patani. The thickness of the aquifer is about 22.2 m.
	Usman and Lawal (2014)	Zaria	Determination of Depth to the top of Magnetic Sources beneath Zaria Area, North western part of Nigeria. 335-340.	The result indicated that magnetic properties and broadness nature of a given magnetic profile determine the number of the sources to be obtained.
28(1)	Bunawa et al. (2014)	Kano	Subsurface Structural Studies of Bayero University, Kano Permanent Site Using Electrical Method. 343-350.	The studies found that it is safe to drink the groundwater. And also provides information about the subsurface condition for engineering and dumpsite.
	Mohammed (2014)		Orthogonal Azimuthal Cross-square Arrays Electrical Resistivity Technique's Kookiness on Detection for Angular Disposition of Electrical Anisotropy. 351-354.	The study suggest that angle of rotation of array is supposed to be much smaller than the determine angle of dip for correct evaluation of dipping angle.
	Okoh *et al.* (2014)		Electrical Resistivity Measurement with NI USB-6255 Data Acquisition Device. 387-394.	From their results, it shows that from both VI and ABEM terrameter revealed a close semblance.
28(2)	Sulaiman et al. (2014)	Asa Dam, Ilorin	Investigation of Earth Dam Seepage using Geo-resistivity modelling: A case of Asa Dam, Ilorin-Nigeria. 393-398.	Their findings propose anomalous conductive zones within the subsurface, which have lateral extension and therefore interpreted as potential pathways for water seepage from the dam.
28(2)	Abdulmutallab and Sa'id (2014)	African Region	Analysis of Geomagnetic Field Components Data from Ground-Based Magnetometers at Three Observatories	Their finding revealed that a significant difference exist between the trends from the three observatories in terms of the monthly variation.
30	Layade G.O., Adebo B.A. and Onyechefu O.C. (May, 2015).	Abeokuta, Ogun State, Nigeria.	A qualitative interpretation of residual magnetic anomaly using ground magnetic data. (161 – 168).	Magnetic method was used in this study. The data collection for the study was done using a G816 proton precision magnetometer.

30	Layade G.O., Adebo B.A. Olurin O.T. and Ganiyu O.M. (May, 2015).	Ogbomoso region, Oyo State, Nigeria.	Separation of Regional – Residual Anomaly using Least Square Polynomial Fitting method (169 – 180)	Aeromagnetic study adopted in the research. The study showed that the basement complex underlies between the north and south of the area comprises of broader area of outcrops.
30	T.T. Ogunseye, O.T. Olurin, G.S. Adekunle and J.A. Olowofela (May, 2015).	Oyo town, Oyo State, Nigeria.	Estimation of magnetic basement depth of Oyo area from aeromagnetic data. (181 – 186).	Aeromagnetic study adopted in the research. The research showed that Oyo and its environs is dominated by basement rocks with variations both in physical characteristics of rocks and structural geometries.
31	Samuel Omosule Sedara and Olusegun Olalekan Alabi (July, 2015).	Awo – Osun, Osun State, Nigeria.	Evaluation of groundwater potential using electrical resistivity method in Awo – Osun community, Ile – Ife, Southwestern, Nigeria. (137 – 146)	Electrical resistivity method was used engaging VES with Schlumberger electrode arrangement. Their investigation zone the study area to be good, intermediate and poor groundwater potential zones.
31	Olowookere C.J.,Adeoje E.A, Jibiri N.N. and Igboama W.N. (July, 2015).	Awo, Osun State, Nigeria.	Measurement of natural radioactivity levels in the topsoil of abandoned tantalite mine in southwestern, Nigeria (161 – 166).	Radiometry method using gamma ray spectrometry was adopted. Their results showed that the soil of the area contains a higher concentration above the recommended value and therefore considered unsafe for construction of buildings.
31	Ezomo F.O., Adagbon J.E. and Abriku E.O. (July, 2015).	Ologbo, Edo State, Nigeria.	Geophysical Determination of sand deposits using 2 – Dimensional electrical resistivity imaging in Ologbo area of Edo State, Nigeria (285 – 290).	Electrical resistivity method was used. From their results they reported that the two profile lines investigated showed sand deposits in the area.
31	Olorode D.O. and Ugwoke C.C (July, 2015).	UNILAG, Lagos State, Nigeria.	Geophysical image investigation of salt/brackish water intrusion into freshwater aquifer in Lagoon coastal region: A case study of University of Lagos, Nigeria (291 – 300).	Electrical resistivity methods were adopted. They used both 1D and 2D methods. From their investigations, two major freshwater aquifer were delineated and they occurred unprotected.
31	Edo T.M. and Adewole E.S. (July, 2015).	Niger Delta, Nigeria.	Performance of a reservoir subject to simultaneous two – edged and bottom water drive mechanisms. (301 – 310).	Reservoir engineering studies adopted. Their results showed that the period of infinite activity is extended if the reservoir is larger than the length of the well and the wellbore radius is small.
32	Ganiyu S.A., Olurin O.T., Awoyemi M.O., Badmus B.S. and Aluko T.J. (Nov., 2015)	Ibadan, Oyo State, Nigeria.	Magnetic sources depth estimation from digitized aeromagnetic data acquired from basement complex formation, South – western Nigeria using spectral analysis (309 – 314).	Aeromagnetic study was carried out in this work in order to estimate the magnetic basement depth. They got 0.881 km as mean shallow depth and 7.630 km as deeper depth.
32	O.T. Olurin, S.A. Ganiyu, G.O. Layade, I.C. Okeyode and O.A. Idowu (Nov., 2015)	Ibadan, Oyo State, Nigeria.	Estimation of source parameters using source parameters imaging (SPI) method on digitized high resolution airborne magnetic data of a basement complex (315 – 320).	Magnetic methods was used engaging aeromagnetic data in the study area. The study showed that the magnetic susceptibility within the study area is controlled by super paramagnetic minerals.
32	Kwalar B.N, Joseph W.G., and Kanu Maxwell O. (Nov., 2015)	Taraba State, Nigeria.	Computation of the theoretical gravity values and their implications on gravity anomalies in some locations in Taraba State. (357 – 364).	A theoretical approach on Gravity survey method was adopted in this study.
32	A.K. Olawuyi (Nov., 2015)	Ajelanwa, Owa Otunand Ogga, Kogi State, Nigeria.	Geo – electrical exploration for groundwater in Ajelanwa, Owa Otunand Ogga communities in middle – Belt region of Nigeria. (365 – 372).	Electrical resistivity methods were used in this study. 1D survey engaging VES with Shclumberger array method was adopted. 2D images were also displayed in this study.
32	Ezomo F.O. and Biose .O. (Nov., 2015)	Eguare, Uromi, Edo State, Nigeria.	Mapping of groundwater contamination using electrical resistivity tomography in Eguare, Uromi, Esan North East Local Government Area, Edo State (425 – 430).	Electrical resistivity method engaging the wenner – schlumberger electrode array. Their study, they also carried out physicochemical analysis of groundwater samples from hand dug well.
32	Ezomo F.O. and Biose .O. (Nov., 2015)	Uwalor – Oke Uromi, Edo State, Nigeria	Geoelectrical imaging of the subsurface using noninvasive technique in Uwalor – Oke, Uromi, Esan North East Local Government Area, Edo State (431 – 436).	Electrical resistivity method engaging the wenner – schlumberger electrode array. From their results, 2D subsurface imaging was done. Their study reported that the water from the hand dug well in the study area is already polluted.
32	J.A. Sunday and O.ologe (Nov. 2015).	Maiduguri, northeastern Nigeria.	Estimation of magnetic source depths from aeromagnetic data of Maiduguri, northeastern Nigeria using gradient inversion method (437 – 442).	Magnetic method was adopted using gradient inversion method on aeromagnetic data. The investigation they carried out showed that the study area maybe targeted for hydrocarbon prospecting based on the magnitude of the sedimentary basin.
33	R.S. Tseke, F.C. Ighrakpata and E.E. Aigbekaen (Jan., 2016)	Agbor, Delta State, Nigeria.	The impact of lithology for better aquifer in Agbor south – south Nigeria (285 – 290).	VES method was used in the study. From their investigation, the interpretation of the resistivity sounding data indicates the presence of aquifer in the area and their results correlated with the borehole data in the area.

33	Alile O.M., Enoma N, and Osahon O.D. (Jan., 2016)	Amahor, Igueben LGA, Edo State, Nigeria.	The effectiveness of short electrode spacing in geoelectrical subsurface investigation using dipole – dipole array (329 – 336).	2D and 3D electrical resistivity imaging were used in this study. The study revealed that shorter electrode spacing is better used for subsurface geophysical investigation especially if the target is not deeply buried into the subsurface.
33	Ishola S.A., Makinde V., Aina J.O., Ayedun H., Akinboro F.G., Okeyode I.C., Coker J.O. and Alatise O.O. (Jan., 2016)	Abeokuta, Ogun State, Nigeria.	Aquifer protection studies and groundwater vulnerability assessment in Abeokuta South Local Government Area, South – West Nigeria. (347 – 362).	Vertical electrical sounding method was adopted in the study. From the study, they discover that the high transmissivity value of aquifer materials indicates highly impermeable aquifers with significant storativity. This enhances the migration and circulation of contaminants within the groundwater system according to the study.
34	Ozegin K.O., Adepeko A.A., Okolie E.E. and Ezenwere C.A. (Jan., 2016).	Niger Delta, Nigeria.	3D seismic attributes analysis and reserve estimation of 'OTIGWE'' field in the coastal swamp depobelt of Niger Delta Nigeria (411 – 418).	3D Seismic method petrophysical analysis was used in this study. From the study, their results revealed the presence of large volume of hydrocarbon in the reservoirs for commercial exploitation.
34	Adeoti L., Ijezie N.T., Adegbola R.B., Ojo A.O., Afolabi S.O., and Adesanya O.Y. (Jan., 2016).	Owode, Abeokuta, Ogun State, Nigeria.	Geoelectrical investigation of groundwater potential at Riol farm, Owode, Abeokuta, Ogun State (425 – 432).	Vertical electrical sounding method was adopted in the study. A total of fifteen (15) VES was conducted round the study area. From the investigation, a recommendation was made on the location of VES 15 that was drilled and yielded a productive borehole within the depth of 110m.
34	Adeoti L., Ishola K.S., Imenvbore I., Ojo A.O., Adegbola R.B. and Afolabi S.O. (Jan., 2016).		Resolution analysis of different electrode array on synthetic earth models of geological relevance (461 – 470).	2D electrical resistivity method was used in the study. From the study, they found out that the dipole – dipole array gives the best representation for all models and gave the most detailed image especially for vertical structure investigation such as dyke intrusion.
35	V. Mankinde, S.A. Ishola, F.g. Akinboro, I.C. Okeyode, S.O.N Agwuebo, V.C. Ozebo, J.O. Coker and J.O. Aina (May, 2016).	Abeokuta, Ogun State, Nigeria.	Evaluation and analysis of geoelectric parameters of Abeokuta south Local Government Area, Ogun State, South West Nigeria (275 – 286).	Electrical method was used in the survey. Geostatistics was used to analyze the geoelectrical parameters. The study showed that there is groundwater resource in the area.
35	Fredrick Ogochukwu Okocha and Merrious Oviri Ofomola (May, 2016).		Estimating the depth, dip and velocity from refracted arrivals f or a dipping refractor (291 – 294).	Seismic refraction prospecting method has been adopted in this study. The study carried is a theoretical approach in the method. The study will help the geophysicists minimize the interpretational ambiguities and cumbersome computations associated with seismic refraction data.
35	P.I. Enyinma and F.U. Nte (May, 2016).	Port Harcourt, Rivers State, Nigeria.	Estimation of the salinity of Choba river, Port Harcourt using a self-constructed electrical conductivity meter (295 – 300).	The study can be classified under geophysical instrumentation. The study showed that the constructed conductivity meter can serve as an effective meter for the measurement of salinity of water bodies.
35	Olorode D.O., Aregbede A.S. and Akintunde O.A. (May, 2016).	Ogun State, Nigeria.	Effects of pressure on attenuation of seismic waves through consolidated sedimentary rocks from Ewekoro formation, Nigeria (301 – 310).	Seismic method is applied in this study. The study showed that increased confining shear pressure causes the attenuation coefficient of the rock samples to decrease.
35	E.D. Akpobi, E.S. Adewole and O.A. Olafuyi (May, 2016).		Model for layered reservoir subject to bottom water drive using horizontal wells (311 – 322).	Reservoir engineering studies applied in the study. The study showed that the model can be applied in well test analysis procedures.
36, No.1	Alile O.M., Osuoji O.U., Osaiyuwu E.A., Enoma N. and Eguavoen K (May, 2016).	Benin City, Edo State, Nigeria.	Smooth and Blocky inversion methods in 2 – Dimensional geoelectrical resistivity survey investigation of the subsurface (315 – 322).	Electrical resistivity imaging method was used. The study showed the point at which either method of interpretation can be applied.
36, No.1	Alile O.M., Omofonmwan O., Osaiyuwu E.A., Ojo K.O. and Osuoji O.U., (May, 2016).	Niger Delta, Nigeria.	Investigation of weathering layer using Up – Hole seismic refraction method in a field in the Niger Delta (323 – 332).	Up – Hole seismic refraction method was used in this study. The study showed that the weathering velocity and thickness on the prospect area are in correlation with what is obtainable in the Niger Delta weathering statistics.
36, No.1	Ezomo O.F. and Kadiri A. Umar (May, 2016).	Southwestern Nigeria earthquake data	The 11th September, 2009 earthquake and the imperative of seismic codes infrastructural development in Nigeria (333 – 340).	Seismic method applied to earthquake events in the study. The study is advocating for the development and implementation of seismic codes for planning and development purposes in the study area and Nigeria in general.
36, No.1	Odesanya Ituabhor and Samuel O. Azi (May, 2016).		SOM visualization of well log data (341 – 346).	Petrophysics studies. Self-organizing map method was carried out on well logs data engaging the Matlab toolbox.

36, No.2	S. Auwalu, M. Saleh, M.A.Y. Hotoro and H.S. Adamu (July, 2016).	Dutse, Jigawa State, Nigeria.	Geoelectrical tomographic evaluation of subsurface conditions of Dutse Model Int'l school and its environs, Jigawa State, Nigeria (351 – 360).	Electrical resistivity imaging method was used. The study gave an overview on the utility of two dimensional direct current resistivity methods to explore the subsurface.
36, No.2	James A. Adegoke, Olatunde I. Popoola and Oludotun O. Faluyi (July, 2016).		Development of saltwater intrusion model in coastal aquifers (361 – 366).	A mathematical models was developed by applying some constraints on Darcy's and Fick's laws. The results from the study showed that the mass flux of saltwater contaminant in a porous medium attenuates as a function of hydraulic conductivity and diffusion coefficient.
36, No.2	Ezomo O.F. and Afegbua K.U. (July, 2016).	Southwestern Nigeria.	Determination of Moho depth and V_p/V_s Ratio in Nigeria from a local earthquake (367 – 376).	Seismic method applied to earthquake events in the study. The aim of the study was to determine the Moho depth and velocities in the study area.
36, No.2	Levi I. Nwankwo and Uche E, Ezebuiro (July, 2016).	Niger Delta, Nigeria.	Reservoir characterization and rock volume estimation using 3D seismic and petrophysical data in Bada field, Niger – Delta basin, Nigeria (377 – 392).	Seismic and petrophysical studies were carried out in this work. They used 3D seismic and composite well logs data.
37	Dogara M.D., Aboh H.O. and Kogi K.A. (September, 2016).	Ungwan Maji, Kaduna State, Nigeria.	Subsurface investigation for groundwater at Ungwan Maji, Dan Hono Kaduna, Nigeria (199 – 204).	Electrical resistivity method engaging VES was used in this study. The Schlumberger electrode arrangement was adopted in the study.
37	Abubaka *et al*. (September, 2016).	Gezawa LGA, Kano, Nigeria	Geophysical characterization of basement complex areas of Gezawa Local Government Area, Kano, Nigeria	Electrical resistivity method engaging VES was used in this study. The Schlumberger electrode arrangement was adopted in the study. A total of 30 VES was conducted round the area.
37	Abubaka *et al*. (September, 2016).	Northeastern part of Kano, Nigeria.	Application of remote sensing technique in the assessment of groundwater potentials of Northeastern part of Kano State, northern Nigeria (467 – 480).	Remote Sensing method was used in this study. The study showed the elevation of the area to lie between 381m to 681m.
38	Ogbeide P.O. and Igbinere S.A. (September, 2016).		Improving oil and gas recovery using nuclear magnetic resonance logging tool in obtaining accurate petrophysical parameters (489 – 494).	Nuclear magnetic resonance (NMR) logging method was adopted in this study. From the study, it was recommended that NMR should use more often during exploration and completion operation.

2.0 Conclusion

The review of the articles appearing in volumes 1-38 of the Nigerian Association of Mathematical Physics Journal was successfully carried out. The total number of volumes reviewed is forty-one (41). This is as a result of some of the volumes having two issues viz: vol. 25, 28 and 36. The review showed that virtually all the geophysical methods were adopted in the different articles that appeared in the journal within the period under consideration. However, no geophysics article appeared in vol. 22 and 29 of the Journal of NAMP.

3.0 References

Nigerian Association of Mathematical Physics Journal, Vol. 1- 38 (Geophysics articles only).