CHAPTER 21

GEOLOGY

Doctoral Theses

229. LALIT KHASDEO
Structural Evolution of Gavilgarh-Tan Shear : A Major Brittle-Ductile Fault System within the Central Indian Tectonic Zone.
Supervisor : Dr. Anupam Chattopadhyay
Th 16814

Abstract

Focuses on the deformational history of the Gavilgarh-Tan Shear Zone (GTSZ) exposed in the Kanhan river valley south of Chhindwara, M.P. Four types of folds have been described from the granitic mylonites of GTSZ which show varied geometry and orientation, but at least some of them (e.g. Type I and Type III) show overprinting relationship and appear to have evolved during progressive shearing. Winged prophyroclast systems have developed profusely in the mylonites and help in kinematic analysis, specially determining the shear sense. Detailed microstructural analyses indicate that mylonites were formed under high-temperature ($\geq 500^0$C: Amphibolite Facies) ductile shearing with sinistral shear sense.

Contents

1. Introduction. 2. Geological set-up of the study area. 3. Macro and mesoscopic structures in the shear zone. 4. Microstructure of the sheared granitoids. 5. Kinematic analysis of the shear zone rocks. 6. Structural and tectonic interpretations. 7. Discussion and Conclusions. Bibliography.

230. NAGAR (Jitendra Kumar)
Airborne Suspended Particulate Matter in Industrial Areas of Delhi and Its Effects on Respiratory Allergy in Children.
Supervisors : Prof. J. P. Srivastava and Prof. Raj Kumar
Th 16850

Abstract

Reveales that high concentration level of particulate matter containing quartz, carbonate, mica, and several major and trace elements inclusing silica, chromium, cobalt, lead, copper, nickle, zinc, molybdenum and cadmium is an important factor causing increased respiratory diseases including asthma, rhinitis and upper respiratory tract infection in children. High concentration of indoor SPM containing several major and trace elements in significant amount is associated with environmental factors such environmental tobacco smoke and biomass or liquid petroleum gas fuel used for cooking. It is concluded that the polluted indoor environment with high concentration of particulate matter containing several minerals and several major and trace elements which are very toxic in nature and harmful for human health.

Contents

231. SINGH (Yumkhaibam Rajesh)
Geochemistry and Petrogenesis of Bayana Mafic Magmatic Rocks, North Delhi Fold Belt, Rajasthan.
Supervisor : Prof. Talat Ahmad
Th 16679

Abstract

Presents comprehensive major, trace including rere earth elements data for forty-two samples and Sm-Nd isotopic data for five samples to characterise the geochemical nature, their genesis and tectonics of emplacement/eruption. Indicates that vol canic and dyke samples have a very close resembalance. They show more or less uniform trace elements composition. In the binary plot of Ce vs Nd, the dykes samples follow the same trend as shown by the volcanic indicating the possibility that majority of samples of volcanic and dykes appears to be genetically related by varying degree of partial melting. Porposes a geodynamic model for the development of the Jahaj Govindpura volcanic and dykes.

1. Introduction. 2. General geology of the study area. 3. Petrography. 4. Geochemistry. 5. Petrogenesis. Conclusion. Bibliography.

M.Phil Dissertations

232. JHA (Surendra Kumar)
Compositional Studies on Clays and Their Paleoenvironmental Implications on Uranium Mineralization in Bijawars of the Sonrai Basin.
Supervisor : Prof. J. P. Shrivastava

233. NAIK (Dinesh Kumar)
Late Quaternary Paleoclimatic Changes From the Southwestern Indian Ocean.
Supervisor : Prof. Devesh K. Sinha

234. VASHISHT (Nand Kishor)
Geomorphic Characterization and Analysis of Ecological Variability in the Yamuna River Around Delhi Area.
Supervisor : Dr. Vikrant Jain