

A NOTE ON GEOLOGICAL MAPPING OF THE GRANULITE TERRANES SURROUNDING THE GODAVARI BASIN by H. V. Ram Babu and Prasanti Lakshmi,
Jour Geol. Soc. India, v.65, 2005, pp.211-216.

S. Viswanathan, 10, Bapuji Apartments, Dombivili (East),
 Mumbai – 421 201 comments:

Here are my comments on the above paper

This paper discusses the possible configuration of the deep subsurface occurrence of the four Granulite Terranes based on gravity and aeromagnetic data. Of course the authors have done an excellent exercise and deserve due compliments. However, except for the EGT belt that lies conformably with the well exposed and well studied main Eastern Ghat Terrane, the other three belts distinctly intersect NE-SW trend of the Eastern Ghats.

Hence, how do the authors rule out the possible occurrence of mafic, probably even alkaline intrusive magmatic bodies across the basement granulites?

What is the special geophysical signature to define these belts as granulitic ones?

H.V. Ram Babu and Prasanti Lakshmi, National Geophysical Research Institute, Hyderabad, reply

The following is our reply to the comments made by Dr S Viswanathan

We have not ruled out the possible occurrence of mafic or alkaline intrusive magmatic bodies in the granulite terrains discussed in the paper.

The pattern and amplitude of magnetic and gravity anomalies are used as special geophysical signatures for identifying the granulite terrains as discussed in detail in our paper.

NOTES

3rd ANNUAL MEETING OF THE ASIA OCEANIA GEOSCIENCES SOCIETY (AOGS 2006)

The “Asia Oceania Geosciences Society (AOGS)” is an international society formed to highlight and promote earth science, especially from Asia and Oceania (a region comprising of Australia, New Zealand, Malay Archipelago and nearby islands). The 1st and 2nd meetings were successfully held in 2004 and 2005 at Singapore. In continuation, the 3rd Annual meeting (AOGS 2006) was held at Singapore during 10 - 14 July 2006. The papers presented during the meeting are being processed to be presented in the form of “AOGS 2006 Program Book”. There were six sections with parallel sessions along with poster presentations and a special section comprising of Interdisciplinary Working Groups (IWGs), which included NH (natural hazards, earthquakes, tsunamis, volcanoes etc.), NL (nonlinear geophysics) and PR (polar research).

The “Society Lecture” was delivered by Dr W I Axford from Max Planck Institute for Solar System Research, Germany titled “Space Physics from 1957 to the Present Time – A Retrospective”. The section lecture for the “Ocean Sciences” was delivered by Prof Pinxian Wang from Tongji

University, Shanghai, China on 11th July 2006 entitled “The South China Sea History in Ocean Drilling Perspectives”. In this talk he summarised the efforts made by Ocean Drilling Program (ODP) in South China Sea that has helped greatly in unravelling the mystery of East Asian Monsoon (EAM) history. He reported that the inception of the EAM took place at ~23-25 Ma with major intensifications at 8 Ma, 3.2 Ma and 0.4 Ma. The “Atmospheric Sciences” lecture entitled “Prediction of the Indian Monsoon Challenges Ahead” was to be delivered by Dr Sulochna Gadgil from Indian Institute of Sciences, India but was later withdrawn. The section lecture for “Planetary Sciences” and “Solar & Terrestrial Physics” was clubbed in one lecture by K. O'Brien from Northern Arizona University, USA. He reported on the computational intricacies and complexities involved in the propagation of radiation through various regions. The practical application of these computations are in the field of radioactive fallout, beta-ray transport, accelerator shielding, cosmic ray ionization, cosmogenic isotope production, radiation dose to air-crew and space-crew.

“Hydrological Sciences” section lecture was delivered by Dr V T V Nguyen from McGill University, Canada in which he discussed the impacts of climate change on the hydrological cycles on various temporal and spatial scales. General Circulation Models (GCM) that predict climate change possess a coarse spatial resolution (generally 2° for both latitude and longitude) to be of any use to hydrological studies which deals with the regional/local and station level. He discussed the theoretical and practical aspects of tools that have been developed to downscale the GCM prediction to local levels. There were two lectures scheduled under the “Solid Earth” section. The first one was delivered by Dr Kojiro Irikura from Aichi Institute of Technology, Japan entitled “Earthquake Hazards Prediction”. It was a very relevant lecture that highlighted the efforts made by Japanese government to understand and lessen the effects of earthquakes, especially drawing from the experience obtained during the 1995 Kobe earthquake. He discussed the importance of evaluating strong ground motions from future earthquakes to mitigate earthquake damage in urbanized areas surrounded by active faults and located close to subduction-zone earthquakes. He emphasized on recognising various fault parameters, zones, their rupture and propagation. The second lecture belonging to the “Solid Earth” section was presented by Prof Bor-Ming Jahn from *Institute of Earth Science, Taiwan*, entitled “Formation and Evolution of the Continental Crust”. Earth is unique among the planets of the solar system as it is the only one to possess a continental crust. It covers 40% of the earth’s surface, 40 km thick on an average, silicic in composition with a major

seismic velocity jump, the Mohorovicic discontinuity, at its base. Prof Jahn discussed current problems pertaining to the formation and evolution of the continental crust, processes of continental growth and recycling with the help of a specific example of crustal growth from the Central Asian Orogenic Belt. In addition, a series of public lectures were delivered by renowned experts, which were attended by more than a thousand Singaporean school children and their teachers.

The section of special interest of the author was the “Ocean Science”, in which a large number of Indian scientists participated. A session was convened by Dr P D Naidu, entitled “Link Between Abrupt Climate Variability and Asian Monsoon System over the last 140 ka”. It was chaired by Dr Raja S Ganeshram from University of Edinburgh, UK in which the undersigned presented a paper entitled “Synchronous Variations in Polar Temperature and South Asian Monsoon Precipitation”. The papers presented in this session tried to explore the connections between the tropics and high latitude climate change and to identify the regions in bringing such changes.

Thus, this meeting was very informative and useful and concluded with great success. The next meeting (AOGS – 2007) will be held in Bangkok, Thailand from 31st July to 4th August 2007.

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SEMINAR ON PALEOSEISMOLOGY AND ACTIVE FAULTS IN GUJARAT

The above Seminar was organized on 16 September 2006 by the Institute of Seismological Research, Gandhinagar, Gujarat. Over fifty delegates participated and fourteen papers were presented on recent work and results on the subject matter. S K Biswas explained that Kachchh is a rift basin formed in Mesozoic time between Nagar Parkar Fault and the North Kathiawar Fault, the later being the master fault. There were three uplifts that took place along primordial faults of Aravalli belt: Island Belt, Wagad and Kachchh Mainland with intervening grabens and half grabens. A sub-surface N-S basement ridge-Median High crosses the basin. Acting as a hinge it divides the basin into a deeper western part and a shallower and more

tectonised eastern part. During late Cretaceous pre-collision stage of the Indian Plate, upthrusting occurred along these major faults. Later on due to plate induced horizontal stress, strike-slip movement occurred along these faults. The right-lateral slip shifted the uplifts eastward with respect to Kachchh mainland. Igneous plutons have extensively intruded the Mesozoic sediments during rifting and post rift hotspot related Deccan volcanicity. Studies on intrusive bodies and seismological data of NGRI suggest the presence of an ultramafic magmatic body in the 2001 epicentral zone. During the present compressive stage, the Kachchh Mainland Fault (KMF) has become the active principal fault. Towards the eastern end it left-steps and