Geophysical Research Abstracts,
Vol. 10, EGU2008-A-02884, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-02884
EGU General Assembly 2008

Results of study of deep structure of mud volcanoes in the Taman mud volcanic province (Taman peninsula) by means of geological and geophysical methods

A.L. Sobissevitch (1), A.V. Gorbatikov (1) , A.N. Ovsuchenko (1), L.E. Sobissevitch (1), S.V. Ratner (2), V.V. Lozovoy (3)

(1) Schmidt Institute of Physics of the Earth, Russian Academy of Sciences, Moscow, Russia (alex@ifz.ru, phone/fax: +7 495 2548752), (2) Kuban State University, Krasnodar, Russia (www.kubsu.ru), (3) Southern Science Center of the Russian Academy of Sciences, Rostov-on-Don, Russia

Collaborative study of mud volcanic phenomena in the Taman mud volcanic province is being carried out by scientists from Schmidt Institute of Physics of the Earth, Southern Science Center of the Russian Academy of Sciences and the Kuban State University. In this contribution the results of complementary geological and geophysical studies of three mud volcanoes (the Shugo mud volcanoe, the Akhtanizovsky mud volcanoe and the Gora Karabetova mud volcanoe) carried out in frames of field works 2006 - 2007 are presented. Instrumental observations were performed by means of methods of active seismology (usage of controlled source of vibroseismic signal), traditional magneto-telluric studies and in combination with original technique for passive microseismic sounding. As a result the new knowledge has been obtained from several vertical cross-sections for the two different mud volcanoes and then their deep subsurface structure (up to depth of 25 km) has been revealed for the first time. Complementary interpretation of raw data sets delivered form geophysical and geological surveys allows considering principal differences of origin and mechanisms of mud volcanic activity for the Shugo and the Gora Karabetova mud volcanoes.