

Some aspects of magnetic field line reconnection

H.K. Biernat¹, V.S. Semenov², N.V. Erkaev³, S. Mühlbacher¹, D.F. Vogl¹

¹*Space Research Institute, Austrian Academy of Sciences, Schmiedlstrasse 6, A-8042 Graz, Austria*

²*Institute of Physics, State University St. Petersburg, St. Petergof, 198504, Russia*

³*Institute of Computational Modelling, Russian Academy of Sciences, Krasnoyarsk, 660036, Russia*

The process of the reconnection of magnetic fields is an important plasmaphysical energy conversion mechanism, where magnetic field energy is transformed into other kinds of energy. We present recent results of theoretical reconnection studies, including also time-varying phenomena. In addition, the data aspect of this process is discussed. Reconnection associated phenomena, and some accompanying manifestations in the magnetosphere are shown.