

International Conference on
ASTRONOMY, ASTROPHYSICS AND ASTROBIOLOGY
May 30-31, 2018 Osaka, Japan

Flux canceling in 3D MHD simulations

Irina Thaler

Kiepenheuer Institute for Solar Physics, Germany

The processes involved in the disappearance of magnetic flux between regions of opposite polarity on the solar surface are studied with realistic 3D MHD simulations. 'Retraction' below the surface driven by magnetic forces is found to be a very effective mechanism of flux canceling of opposite polarities. The speed at which flux disappears increases strongly with initial mean flux density. In agreement with existing inferences from observations we suggest that this is a key process of flux disappearance within active complexes.

thaler@leibniz-kis.de