Reconnection rate dynamics

I.V. Alexeev, V.S. Semenov *(Institute of Physics, St. Petersburg State University, St. Petersburg, St. Petergof 198504, Russia)*

Self-consistent model of dynamic reconnection is presented. Global reconnection solution is constructed from the numerical solution in the diffusion region and the analytical solution in the convective zone. Reconnection rate dynamics is derived from the matching condition of the diffusion and convective solutions. Specific feedback between convective and diffusion regions of the reconnection process is demonstrated. Reconnection rate pulsations are explained as a consequence of the such feedback.