

## Physics of the Crab Nebula

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The Crab nebula has been one of the most important "test beds" of relativistic plasma astrophysics since the middle of the last century. It keeps providing us with valuable hints every time we open a "new window into Universe". Yet after decades of research and countless publications, many important issues are still not fully resolved. In my talk, I will focus on the long-standing sigma-problem of the Crab Nebula and how magnetic reconnection may help us to find its solution. In particular, I will describe what we have learned from our recent relativistic MHD simulations.