

# Different magnetorotational supernovae

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Results of 2D simulations of magnetorotational core collapse supernova explosion are presented for different core masses, angular momenta and magnetic field configurations. We show that magnetorotational mechanism allows one to get an explosion energy which corresponds to observational data. The shape of the explosion significantly depends on the initial magnetic field configuration. During the magnetic field evolution, magnetorotational instability (MRI) develops which means an exponential growth of all magnetic field components. MRI significantly reduces MR supernova explosion time. We found that the supernova explosion energy grows with the increase of the initial iron core mass and initial rotational energy[1].

## References

- [1] G.S. Bisnovatyi-Kogan, S.G. Moiseenko, N.V. Ardeljan. Astr. Rep. (submitted) 2008

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