
Neutron Star Cooling

With BSk EoS & Rust

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Structure

Build Metric

In general, we can write spherical symmetric metric tensor as follow:

$$ds^2 = -e^{2\Phi} dt^2 + e^{2\Lambda} dr^2 + r^2 d\Omega^2, \text{ where } \Phi = \Phi(t, r), \Lambda = \Lambda(t, r)$$

Since neutron star is static, let add static condition, then $\Phi = \Phi(r)$, $\Lambda = \Lambda(r)$.