The invention is a method and system for obtaining projection based feasible trajectory for fast MRI Scanning.

**BACKGROUND**

In conventional MRI, the output frequency signals are received in k-space and are sampled using path called trajectory. It is a time consuming process to construct an image. In literature, there are two methods to obtain feasible trajectory: Optimal control-based and projection based method. The former method has the limitation of increased scan time as it forces trajectory to follow an original reference curve. The projection based method suffers from the drawback of heavy dependency on initial parameterization of the curve.

**TECHNOLOGY**

The invention solves the problem of designing optimal trajectories for faster MRI scans under the compressive sensing network. It provides smooth trajectories from random points on k-space. In addition, the invention helps in reducing the MRI scan time by large factors as the image construction is performed using non-linear methods.

**COMMERCIALIZATION**

The invention is filed with provisional specification for a patent grant in India. We are seeking for a commercial partner for licensing, collaboration and development of this technology.