## **Teleseismic Delay Time Tomography of Dharwar Craton, India**

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The Dharwar craton represents a unique geological province with ages of its distinct segments varying from mid-Archean to late Proterozoic. Important segments include Western Dharwar (WD) with age from 3.4- 2.7 Ga, Eastern Dharwar (ED) with primarily age of 2.5 Ga, Cuddapah basin (0.7 -1.5 Ga) and Eastern Ghat Granulite Terrain (EGGT). Post cratonization, two important events influenced the Dharwar craton. These include the 1.2 Ga Kimberlite explosion and Indo-antarctica separation at ~100 Ma.

To model the evolutionary pattern of the Dharwar craton and the influence of subsequent events in the physical property of mantle rocks, we investigate the upper mantle structure of the terrain using teleseismic events over a network of 35 broadband seismological stations. We create the 3-D seismic image of the terrain using travel time measurements down to a depth of over 300 km.

These images suggest large scale variation in the P- wave velocity among the individual segments of the craton. We shall detail the velocity image in terms of the material properties and the processes that operated from mid Archean to recent.