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A strategic independent geodetic VLBI network for Europe.

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Abstract content
   (Max 300 words)
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The main point of Very Long Baseline Interferometry (VLBI) is to observe the same object (quasars) at the same time from various and as many as possible locations on the Earth. Geodesists use radio telescopes in VLBI networks to determine the positions of each station relatively to each other in the network. Geodetic VLBI provides the link between the celestial reference frame and the terrestrial reference frame, necessary for determining the Earth's orientation in inertial space. Furthermore, it is the only technique that provides the full set of Earth orientation parameters (EOPs), which are indispensable for positioning and navigation on Earth and in space. We aim to investigate the stability of a proposed independent geodetic VLBI network for Europe and the accuracy of EOP measurements from observations of the proposed network. In particular, the Vienna VLBI Software (VieVS) is used to analyse the results. The proposed stations that will be used to investigate an independent geodetic VLBI network for Europe are the WETTZELL radio telescope in Germany, as well as two other German owned radio telescopes, TIGOCONC in Concepcion, Chile and OHIGGINS in Antarctica, as well as the HartRAO radio telescope in South Africa. To test the stability and the accuracy of the EOPs for this above mentioned network, we have processed existing T2 IVS sessions that include the four proposed stations and we present EOP results of the proposed network against all stations.

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Ludwig Combrinck,
ludwig@hartrao.ac.za,
Hartebeesthoek Radio Astronomy Observatory

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Primary author: Ms DALE, Denise (Hartebeespoorthoek Radio Astronomy Observatory)

Presenter: Ms DALE, Denise (Hartebeespoorthoek Radio Astronomy Observatory)

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