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Temporal evolution of the solar wind in the ecliptic between Venus and Mars orbits

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The twin STEREO spacecraft separate in longitude by about 45 degrees per year providing a unique tool to study the temporal evolution of the solar wind. Now we are approaching the 180-degree spacecraft separation, which allows a complete time scan of the solar wind evolution in the ecliptic. We compare solar wind plasma measurements from the two spacecraft for timelags of 0.1 day up to several Carrington rotations. Using STEREO/IMPACT/SWEA electron and STEREO/PLASTIC, VEX/ASPERA-4/IMA and MEX/ASPERA-3/IMA ion observations we scan the whole heliosphere in the ecliptic between Venus and Mars orbits. We show how the different plasma parameters evolve on different time scales.