GLONASS-R: A novel GNSS reflectometry solution based on software defined radio

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Other than GPS or Galileo, the Russian GLONASS system uses frequency-division multiple access (FDMA) to transmit the signals of the satellites to the user. This feature can be used to develop a GNSS-R system which works without the knowledge of replica codes and enables cross-correlation of direct and reflected signal in a simple and straightforward way. By applying this processing strategy any arbitrary coherent integration length can be achieved without knowledge of the navigation bits. We are going to summarize this novel method and present first results taken with our prototype system.

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