

Optimisation of the BPM data filtering for the fast orbit correction

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The scheme of the digital signal processing applied on the beam signal to obtain the position data used by the fast orbit correction in the Libera Brilliance is based on the requirement of a standard RF receivers for telecommunication application.

The constraints of the fast orbit correction are different and the optimisation of the filtering based on these specific constraints can lead to a significant improvement of the BPM electronics performance.

Beam position data obtained using a Libera with such a modified filtering scheme show that a drastic reduction of the delay in the data processing can be obtained without significant detrimental effect on the quality of the filtering for a fast correction application.

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