

Detection, classification, characterization and reduction of satellite navigation signals degradations by Machine Learning and application in synthetic environment

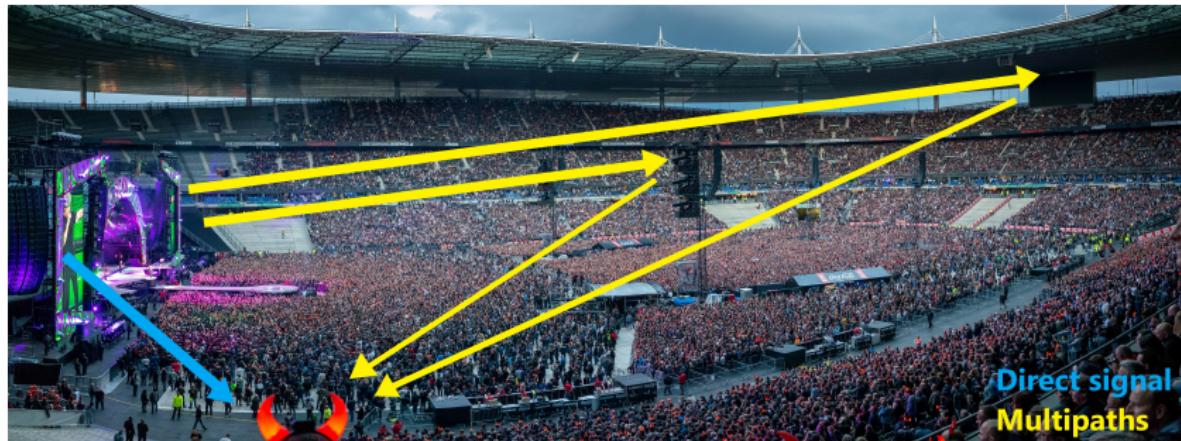
PhD students day - Optim & Telecom laboratories

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Oktal-SE)

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Rock 'n' roll ain't noise pollution ?



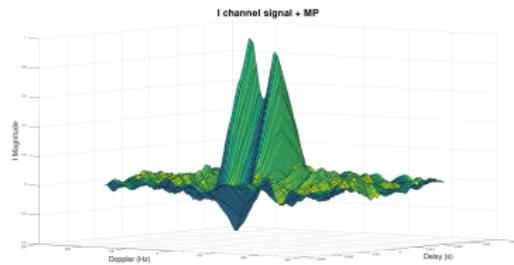
Multipath Phenomenon

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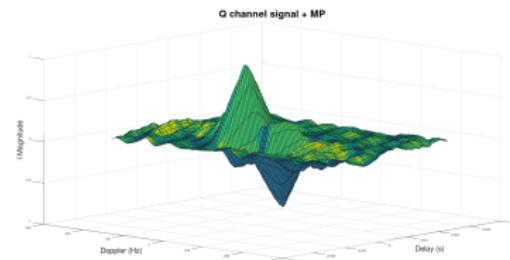
Synthetic signal images generator

Thesis goal

Estimate Multipath parameters ($\tau, f_{Dop}, \phi, \alpha$) of a GPS L1 C/A synthetic signal in tracking step with Deep Learning at the correlator outputs

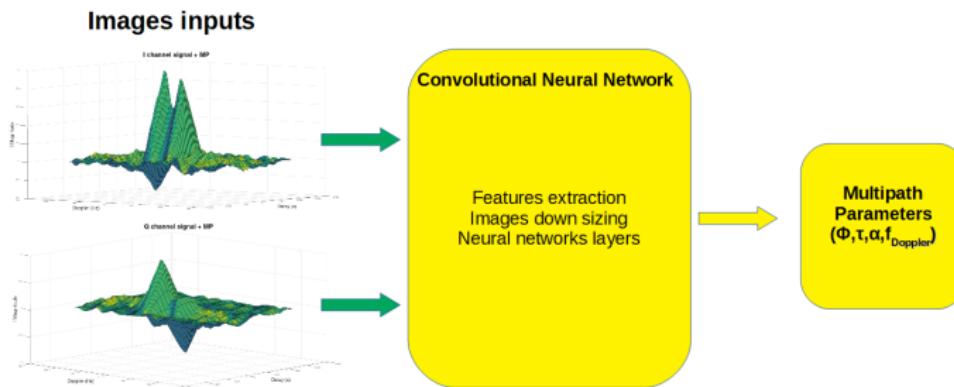


I channel



Q channel

Multipath estimation workflow



CNN-Regression architecture

⇒ Learn how to find the multipath and estimate its parameters by itself

References

Accomplished

- Video-conference for ION GNSS 2021 +: *Multipath Parameters Estimation with CNN-regression on GNSS Correlator Outputs*

Future works

- Article for the Histogram Loss technique