

Solitons in coherently driven active cavities

François Leo

Dissipative solitons are currently attracting a lot of attention. They are most commonly generated in lasers or passive resonators. In this talk, I will discuss soliton formation in a hybrid system which consists in a coherently driven active cavity pumped below the lasing threshold. I will show how this novel system allows for the formation of high power, stable soliton trains but also opens novel avenues for the investigation of new types of solitons such as parametrically driven solitons.

Biography:

François received his PhD, entitled “experimental and theoretical study of dissipative structures in optical resonators”, from the University of Brussels in 2010. After a couple of postdoctoral stays, in Ghent and Auckland, he came back to Brussels to lead his own research team. In 2017, he was awarded a starting grant from the European research council to lead a full-scale effort to better understand the dynamics of quadratically nonlinear resonators.