Title: Topological Light Sources

Boubacar Kanté

Department of Electrical and Computer Engineering, University of California San Diego, La Jolla, California, 92093-0407, USA

The first part of this talk will discuss the demonstration of the first Bound state In Continuum laser [1] that can beam coherent light in prescribed directions. I will discuss the scaling of the modes in the extended laser system as well as the topology of emitted light. The second part of the talk will discuss the demonstration of the first topological laser that non-reciprocally couples stimulated emission to selected waveguide outputs, a long searched optical functionality [2]. I will also discuss unique optical functionalities enabled by this platform.

Fig. 1. Schematic and principle of an arbitrarily-shaped and integrated non-reciprocal topological lasing cavity.
