

Conclusion

In summary, we have experimentally demonstrated a reconfigurable Si thermo-optical device able to tailor its spectral optical response, allowing several degrees of reconfigurable control, such as *FSR*, bandwidth, extinction ratio, and spectral shape. The device brings unique functionalities on optical signal processing that may open the doors for fundamental applications on the next generation of intelligent and reconfigurable networks.

Acknowledgment

Authors thank the NSF CIAN ERC (Grant EEC-0812072), CAPES and CNPQ (Brazilian Foundations) for the financial support and Kavli Nanoscience Institute at Caltech for technical support.