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Daniel T Onofrei*, donofrei79@gmail.com. *Exterior acoustic and electromagnetic control through active surface sources.*

In this talk we will present our recent results concerning the active control of Helmholtz and Maxwell equations in prescribed exterior disjoint regions (possibly including the far field) by using optimally chosen surface sources. We will briefly present the theoretical ideas and then show and discuss relevant simulations for acoustics and electromagnetism in homogenous isotropic media possibly including scatterers. Applications to field synthesis in the presence of obstacles, characterization of almost non-radiating sources with controllable near fields, or scattering cancellation will be also discussed. (Received September 25, 2018)