

Sufficient conditions for the controllability of wave equations with transmission condition at the interface

Ludovick Gagnon ¹

¹ Inria Grand-Est

In this talk, we will consider the controllability of two wave equations with a transmission condition at the interface. Rays encountering the interface are reflected and transmitted according to the Snell's law. Controllability in this context is difficult to establish since interference may occur at the interface. We will introduce a geometric construction that allows one to follow the propagation of the bicharacteristics to ensure that no interference occurs under an escaping geometry assumption. We will present the application of this geometrical assumption in the context of the controllability of waves evolving over manifolds that intersect each other.