On Transport Twistor Spaces

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Transport twistor spaces are degenerate complex 2-dimensional manifolds that can be associated to any oriented Riemannian surface and whose complex geometry is closely linked to the geodesic flow of the surface. In the the last few years these twistor spaces have become a useful device to organise and reinterpret various questions in inverse problems and dynamical systems. In the talk I will give an overview of some of these aspects, including new work shedding light on the complex geometry of twistor space. This is based on joint work with François Monard and Gabriel P. Paternain.