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Linear infinite-dimensional Port-Hamiltonian systems

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In this talk we study linear, first order port-Hamiltonian systems defined on the corresponding infinite-dimensional energy space.

Instead of investigating the underlying Dirac structure of such systems, we choose a functional analytic approach in order to derive conditions for well-posedness and stability. Moreover, we will briefly discuss boundary control systems associated with port-Hamiltonian systems and find conditions for existence and uniqueness of classical solutions. All major results are illustrated by reference to the model of a vibrating string.