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Title: Long-time dynamics of a full von Karman system with nonlinear thermal effects and partially dissipative free boundary conditions

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Abstract: This talk is concerned with long-time dynamics of a full von Karman thermoelastic system with nonlinear thermal coupling and free boundary conditions. Full von Karman system accounts for vertical and in plane displacements. It is shown that the system admits global attractor which is also *smooth and of finite fractal dimension*. This result has been established without any mechanical dissipation imposed on vertical displacements. In order to handle highly supercritical nature of the von Karman nonlinearities, new results on “hidden” partial regularity generated by thermal effects are exploited. These lead to asymptotic compensated compactness of trajectories which then allows to prove that the dynamical system is *quasi stable*.