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Michael Malisoff* (malisoff@lsu.edu), Department of Mathematics, 303 Lockett Hall, Field House Drive, Louisiana State University, Baton Rouge, LA 70803-4918. *Feedback Stabilization of Control Systems Arising in the Visual Landing of Aircraft.*

We discuss a visual landing problem in which an aircraft must align with a runway using a body fixed camera. Such problems arise when emergencies call for civilian or military aircraft to land on unequipped runways and when there may be GPS loss. We help address this problem using a nonlinear control systems approach, by providing new output feedback designs with imprecise output measurements where the outputs can also contain delays and sampling. This research is collaborative with Laurent Burlion from the Rutgers University Department of Mechanical and Aerospace Engineering and with Frederic Mazenc from INRIA in France. No prerequisite background in feedback control will be needed to understand and appreciate this talk. (Received July 27, 2020)