Oh, Seungrohk; Khalil, Hassan K.
Nonlinear output-feedback tracking using high-gain observer and variable structure control.
(English) [Zbl 0890.93049]
Automatica 33, No. 10, 1845-1856 (1997).

The authors consider a single-input-single-output nonlinear system represented by the nth order differential equation
\[ y^{(n)} = f(\cdot) + g(\cdot)u^{(m)}, \]
where \( u \) is the control input, \( y \) is the measured output, \( u^{(i)} \) and \( y^{(i)} \) denote the ith derivatives of \( u \) and \( y \), respectively, and \( m < n \).

The paper designs a globally bounded output-feedback variable structure controller that ensures tracking of the reference signal in the presence of unknown time-varying disturbance and modelling errors.

Reviewer: M. Megan (Timișoara)

MSC:
93C10 Nonlinear systems in control theory
93B51 Design techniques (robust design, computer-aided design, etc.)
93B12 Variable structure systems

Keywords:
feedback linearization; high-gain observer; semiglobal tracking; globally bounded output-feedback; variable structure controller

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References:
control, 41, 177-188, (1996) · Zbl 0842.93033


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