

عنوان مقاله:

Identification of nonlinear systems using quadratic Volterra series, kernels expansion on wavelet with selection of best basis

محل انتشار:

هشتمین کنفرانس بین المللی مهندسی برق با محوریت انرژی های نو (سال: 1394)

تعداد صفحات اصل مقاله: 5

نویسندگان:

Maryam Shafiee - *Department of Electrical Engineering ,Department Ali Abad Katoul Branch, Islamic Azad University, Ali Abad Branch, Iran*

Mahmood Ghanbary - *Department of Electrical Engineering ,Department Ali Abad Branch, Islamic Azad University, Ali Abad Branch, Iran*

خلاصه مقاله:

Identification of a time-varying nonlinear system using a Volterra model is what our work is concerned about. To parameterize the Volterra kernels for quadratic Volterra series different methods can be used. Using orthonormal basis is one of the popular methods. The system's time variation is approximated by a weighted sum of appropriate basis sequences. We use wavelet packets as orthonormal basis that can increase the flexibility of the model by offering an appropriate basis to be selected. We also use best basis algorithm with entropy criterion to select the wavelet packets to approximate the true system's model. In this algorithm the minimum entropy criterion determines the best and the most efficient basis approximation that makes minimum number of sequences causing the best model.

کلمات کلیدی:

Volterra series, nonlinear system modeling, wavelet packets, best basis algorithm, entropy criterion

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/449101>

