

**io-port 05254849**

**García, Antonio G.; Pérez-Villalón, G.**

**On the truncation error of generalized sampling expansions in shift-invariant spaces.**

Sampl. Theory Signal Image Process. 6, No. 1, 53-69 (2007).

Summary: Any function in a shift-invariant space with stable generator  $\varphi$  can be recovered, under suitable hypotheses, from regular samples of some filtered versions of the function itself. This work concerns with the truncation error for the corresponding sampling expansion. In particular, whenever the generator  $\varphi$  and the impulse responses of the involved filters have compact support we obtain the asymptotic behaviour of the truncation error without a previous knowledge of the sampling functions. We illustrate the obtained results with some examples in the cubic spline space.

*Keywords:* shift-invariant spaces; generalized sampling; truncation error