

## **Companion Linear Functionals and Sobolev Inner Products**

M.A. Delgado, F. Marcellán\*

In this contribution we are dealing with the solution of an inverse problem in the theory of standard orthogonal polynomials. This problem appears in the analysis of Sobolev orthogonal polynomials satisfying certain recurrence relations which are a natural extension of the so called coherent measures introduced, among others, by A. Iserles and H. G. Meijer. We describe the solutions of this inverse problem in terms of semiclassical linear functionals. Some extensions and open problems will also be presented.