962-34-829 **Amin Boumenir*** (boumenir@moravian.edu), Department of Mathematics, 1200 Main st, Bethlehem, PA 18018. *Inverse spectral problem for the fourth order differential operator.*

We are concerned with the inverse spectral problem for the fourth order differential operator $y^{(4)} + (p(x)y')' + q(x)y$ with analytic coefficients. Given the set of eigenvalues we shall recover the analytic coefficients p and q. The algorithm unwraps the familiar power series solution into a system of nonlinear equations. A sequence of linear systems is used to obtain an explicit expression of the coefficients of the power series of p and q. (Received September 27, 2000)