

Meeting: 1003, Atlanta, Georgia, SS 34A, AMS Special Session on Algorithmic Algebraic and Analytic Geometry, I

1003-08-1334 **Aihua Li*** (lia@mail.montclair.edu), Department of Mathematical Science, Montclair State University, 1 Normal Avenue, Montclair, NJ 07043, and **Serpil Saydam** (saydam@ulm.edu).
Applying Buchberger-Möller Algorithm in Time Series Modeling.

We apply the Gröbner Bases techniques to construct desired polynomial models of a discrete time series. The well-known Buchberger-Möller Algorithm (BMA) is the main computational tool used in the constructing and searching process. Given a time series, we first select a term order on the monomials involved in the background polynomial ring. By applying BMA with the selected term order, a particular polynomial model is produced. We will compare different outputs from different term orders and analyze the effect of the choice of term orders on the types and future values of the resulting models. (Received October 04, 2004)