1113-46-271 **Farhad Jafari*** (fjafari@uwyo.edu), 1000 E University Ave, P O Box 3036, Laramie, WY 82070-3036. *Sparse moment sequences and multi sequences.*

While many fundamental results in analysis have their foundation in the study of moment problems, the study of sparse moment sequences in one and several variables is relatively recent. In one variable, it is well known that a sequence is a (Hamburger) moment sequence if and only if it is positive definite. It is easy to show that sparse subsequences are generated by sub algebras of polynomials. In several variables, positive definite multi sequences are moment sequences if functions of the form $\theta_j(x) = (1+x_j^2)^{-1}$ are added to the algebra. In this talk we show that sparse moment multi sequences are generated by adding functions of the form $(1 + x_j^{2d_j})^{-1}$ to the algebra. A general theorem relating subsequences of multi sequences to the algebras of functions generating these sequences will be given.

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