

Abstract submitted
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Physics and Astronomy
Classification Scheme

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Suggested Title of Session
in which paper should
be placed:
Localization
Metal insulator transition

Thin films

Thermoelectric Power of thin high resistivity films.* - M. J. Burns and P. M. Chaikin, Univ. Of Cal, Los Angeles, Cal. 90024. -- We have measured the temperature dependence of the resistivity and the thermopower for pure Pd films and for PdAu alloys for resistance per square ($R_{\#}$) values from ~ 100 to $\sim 10^5$ ohms/#. For all samples which have a $R_{\#}$ less than 30 kohms/#, we find a thermopower which is a decreasing function of decreasing temperature. For films with $R_{\#}$ greater than ~ 30 kohms/# we find an increasing thermopower as temperature decreases. Thus although the resistance indicates that all of our films are nonmetallic in terms of their resistive temperature derivative, the thermopower suggests a metal-insulator transition involving the opening of an energy gap. Results on several additional metal film systems will be presented.

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- () Prefer Poster Session
() Prefer Standard Session
() No Preference

Signature of APS Member

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