

National Meeting Itinerary Scheduler

2005 Winter Meeting — Albuquerque, NM

January 8-12, 2005

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CJ08: Students' Ideas About Entropy and the Second Law of Thermodynamics*

□ **Location:** Taos
Date: Tuesday, Jan. 11
Time: 12:15 p.m.
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Abstract: As part of our continuing efforts to investigate student understanding of thermal physics in an introductory calculus-based course, we have probed students' ideas regarding entropy and the second law of thermodynamics. Most students enrolled in the class have had previous exposure to thermodynamics concepts in chemistry or high-school physics courses, and so many of them have specific ideas about these concepts even before instruction begins. We administered a series of free-response pretest questions during the first week of class, before any instruction on thermodynamics had taken place. The questions probed student conceptions about entropy and its relationship with other thermodynamic properties. We will present an analysis of these data, as well as follow-up interview data that sheds additional light on students' thinking.

Footnotes: *Supported in part by NSF grants #DUE-9981140 and #PHY-0406724.

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