Rationale: Previous studies centered around interviews with faculty members about problem solving (Yerushalmi et al. 2007, Henderson et al. 2007) yielded artifacts that may be analyzed using a recently developed rubric for analyzing student solutions (Docktor 2009). We investigate the feasibility of using the rubric and discuss some preliminary implications from data results.

Background
Faculty perceptions of problem solving: Participants studied problem statements, student artifacts and faculty artifacts, and discussed their thoughts. This task generated faculty artifacts, i.e. conversation topics. The faculty then categorized their own artifacts as the last task.

Rubric for assessing problem solutions: The rubric is comprised minimum set of problem solving categories by which a written problem solution may be evaluated on a scale from 0 to 5. Tested for validity, reliability, utility.

Categories can be used to examine beliefs and values expressed by faculty in interviews.

Analysis
2 raters fit a) individual artifacts; b) faculty categories into rubric categories. Independent analysis of a 5-faculty sample; then split remaining faculty into groups of 12 and 13 for independent analysis. Agreement established to 80% by discussion.

Research Questions: -Do faculty artifacts/categories fit the rubric? -What does the rubric tell us about individual artifacts and categories?

Interviewer style: Individual cards’ classification was independent of interviewer style, but interviewer 1’s faculty categories easier to classify than interviewer 2’s!

Conclusions
Rubric categories have excellent fit to individual artifacts, very good fit to faculty categories
Facility focus more on physical principle-related topics (PA and SAP); faculty categorization of artifacts consistent with rubric categorization of artifacts. Few differences between different institution levels.

Interviewing style doesn’t seem to affect rubric categorization of artifacts, but does affect faculty categorization of artifacts.

References