Educational Transfer Plan Proposal 2000 Eric Muhs University of California, Santa Cruz (UCSC), Santa Cruz Institute for Particle Physics (SCIPP) Hartmut Sadrozinzki, *mentor*

For Grade levels: 9-12

OBJECTIVES :

Students and teachers will use 2 multimedia presentations to learn about modern physics &relativity. The presentations will be a "living textbook", presenting linked pictures, text, sound, and animations which will support literacy and connect students to the process of scientific research.

ABSTRACT :

This plan includes the development of 2 multimedia packages on CD-ROM. The first, entitled "Symmetry : Searching for Patterns" addresses the process of pattern recognition in quantum physics. Patterns in music and art are also presented as a way to involve and connect with high school age students.

The second, entitled "Seeing Relativity", is based on supercomputer animations from the Australian National University. In these animations, light is slowed to walking speed, making relativity effects obvious and startling. The animations are digitized into Quicktime movies, and audio narration & background music are added. The movies are optimized for presentation, so they are large – the complete package contains four CD-ROMs.

Each package will include HTML documents, Powerpoint presentations, outside links, and lab activities, and can be distributed via CD-ROM or by downloading from a server site using FTP software.

<u>**RESOURCES</u>**: Computer, CD burner, Internet access, Lab access, Researcher access, server space (optional).</u>

EVALUATION & ASSESSMENT :

Both multimedia packages on CD-ROM will be presented by me to local physics teachers. Additionally, I have set up a server to enable internet access & direct download. Evaluation forms will accompany the CD-ROM and download version and will be returned to me after teachers use the CD in their classroom.

Mentor Signature: _____