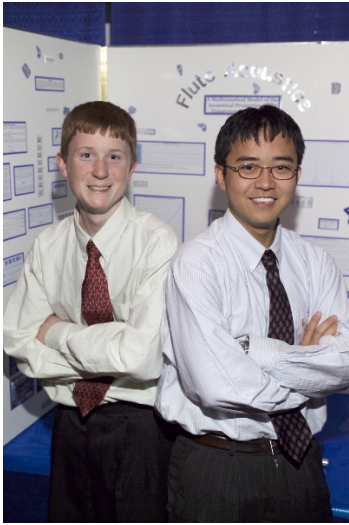


CWSF 2006 - Saguenay, Québec



Matt Laporte, Bo Lu

A Mathematical Model of the Acoustical Properties of the Transverse Concert Flute

Division: Health Sciences

Category: Senior

Region: Algoma Rotary

City: Sault Ste. Marie, ON

School: Korah Collegiate & Vocational School

Abstract: This project produced a model that is used to accurately estimate keyhole locations on a flute's body. Finding notes and their tube lengths, end corrections were applied to these lengths in order to accurately predict wavelength and find a correlation between frequency and tube length. This method had a small keyhole placement error of $\pm 0.053\text{m}$, and could be changed to suit other open tube instruments.