Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

X-ray absorption Studies of Zinc species in *Centella asiatica*[1]
SUNIL DEHIPAWALA, TAK CHEUNG, CLAYTON HOGAN, YAO AGOUDAVI, Queensborough Community College, SUMUDU DEHIPAWALA, SUNY at Stony Brook — Zinc is a very important mineral present in a variety of vegetables. It is an essential element in cellular metabolism and several bodily functions. We used X-ray fluorescence, and X-ray Absorption near Edge structure(XANES) to study the amount of zinc present in several leafy vegetables as well as its chemical environment within the plant. Main absorption edge position of XANES is sensitive to the oxidation state of zinc and is useful when comparing the type of zinc present in different vegetables to the standard zinc present in supplements. Normalized main edge height is proportional to the amount of zinc present in the sample. Several leafy greens were used in this study, such as *Spinacia oleracea*, *Basella alba*, *Brassica oleracea*, *Cardiospermum halicacabum* and *Centella asiatica*. All of these plant leaves contained approximately the same amount of zinc in the leaf portion of the plant and a slightly lower amount in the stems, except *Centella asiatica*. Both leaves and stems of the plant *Centella asiatica* contained nearly two times the zinc compared to other plants. Further investigation of zinc's chemical environment within *Centella asiatica* could lead to a much more efficient dietary consumption of zinc.

[1]Use of the National Synchrotron Light Source, Brookhaven National Laboratory, was supported by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences, under Contract No. DE-AC02-98CH10886

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Date submitted: 12 Nov 2012 Electronic form version 1.4