UWSP CHEMISTRY

... THE "EXPERIMENTAL" DEPARTMENT

SEMINAR

Symmetry...the Broken Looking Glass

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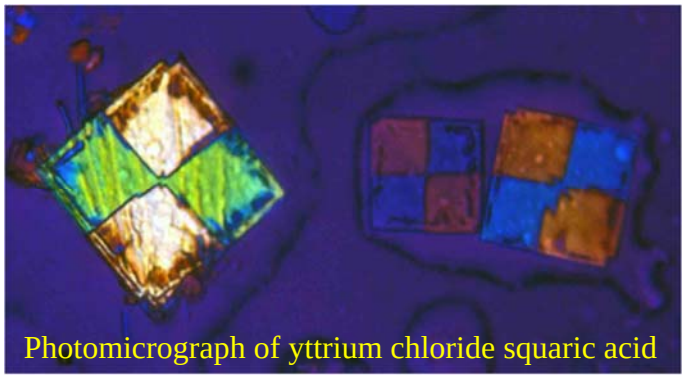
2:00 PM
A121 Science Building



Photomicrograph of yttrium chloride squaric acid

ABSTRACT: Symmetry can be defined as a similarity of form, that is, correspondence of opposite parts with respect to shape, size and orientation. In addition, there are various orders of symmetry. This talk will introduce point and space group symmetries, symmetry elements and operations and some of their implications to the study of the arts and sciences. Knowledge of symmetry aspects of a real or fictitious object allows us to look for or predict properties of that object. For a molecular species such properties may be specific rotation, net electric and magnetic dipole moments, and the number and kinds of electromagnetic interactions. Crystalline and other solid materials also exhibit orientation dependent properties. Topics include chirality, crystals and catenanes.

| A B − B A | ≠ 0 or:
Going from A to B is not always the same as going from B to A.

BACKGROUND: Bill C. Mikuska received his BS and MS in chemistry from the Illinois Institute of Technology with emphasis in physical chemistry and chemical physics. Research studies included gas-surface interactions by molecular beams and X-ray induced defects in alkali halide crystals. A 30-year teaching career at Triton College followed where he engaged students to use polarized light microscopy in independent study projects. He was president of the State Microscopical Society of Illinois for 9.5 years, and is also a fellow of the Royal Microscopical Society. He taught classes in polarized light microscopy to high school students, high school and middle school teachers, and engineers at Fermi National Accelerator Laboratory and at the Argonne National Laboratory. Most recently he became a member of the Rowfant Club, a bibliophilic society founded in Cleveland in 1892. His interests range from classical music (organ performance and practice), Venetian and French glass, antique bronzes, art, meteoritics, mineralogy, and botany.

Faculty, staff and students are cordially invited to attend