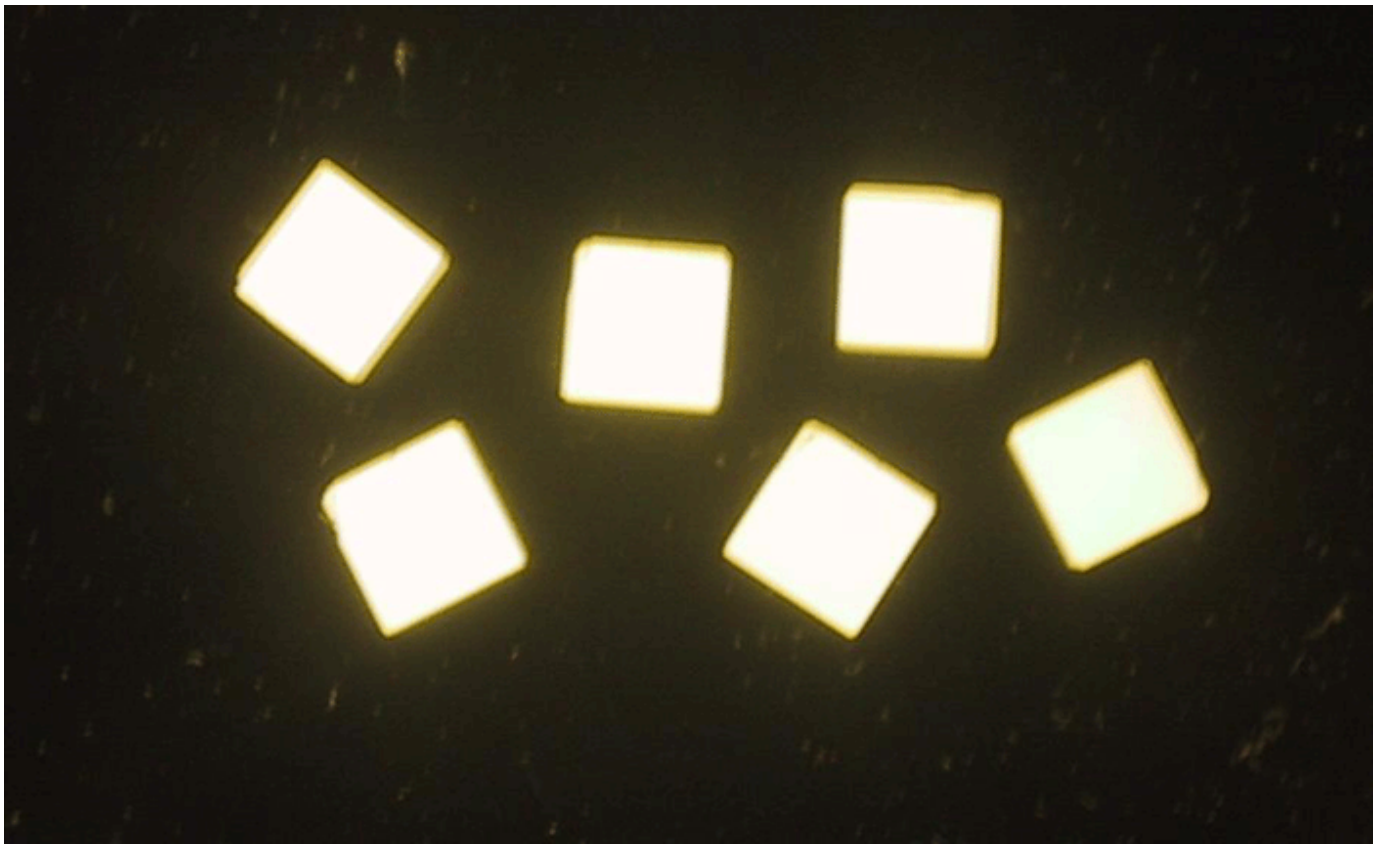
Crystal Depolarizers

Crystal plates can also be made into depolarizers.

One group of designs include a single birefringent wedge that is bonded to a glass wedge of similar angle to compensate for beam deviation. Alternatively, the second wedge can be made of the same material, but with the crystalline optic axis set at an angle with respect to the crystalline optic axis of the first wedge.

Lyot depolarizers use parallel birefringent plates with each plate being exactly twice the thickness of the preceding plate. The crystalline optic axis of each plate is set at an angle with respect to the crystalline optic axis of the previous plate. Cemented calcite depolarizers are shown in the figure below, viewed between crossed polarizers. Note that, even when oriented randomly, the depolarizers have no strong orientation dependence.



Lyot-type, three-plate, calcite depolarizers, manufactured at Laser Optics, as viewed between crossed polarizers.