

Abstract Submitted
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Stock sheets of polycarbonate as inexpensive low-order optical wave plates JAMES KAVANAUGH, ADAM GREEN, University of St. Thomas — We show that commercially available transparent polycarbonate sheets often have linear retardances in the quarter- to half-wave range for visible light. Sheets with thicknesses from 1/16" to 3/16" act as zero- to third-order retarders that are modestly stable with temperature and uniform with position. By adjusting the sheets' tilt and orientation angles, they can be tuned to desired retardances, although they are not as sensitive to these parameters as are higher-order wave plates. Since they are readily available and inexpensive, these sheets make good candidates as easily machined, large-aperture wave plates for general laboratory use.

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