

[54] NON-DESTRUCTIVE METHOD FOR DETERMINING THE EXTENT OF CURE OF A POLYMER

[75] Inventors: Jose A. Ors, Solebury Township, Bucks County, Pa.; Suzanne F. Scarlata, South Brunswick Township, Middlesex County, N.J.

[73] Assignee: AT&T Technologies, Inc., Berkeley Heights, N.J.

[21] Appl. No.: 740,155

[22] Filed: Jun. 3, 1985

[51] Int. Cl.<sup>4</sup> ..... G01N 21/64

[52] U.S. Cl. .... 250/459.1; 250/458.1; 356/368

[58] Field of Search ..... 250/459.1, 458.1, 358.1; 356/369, 368, 364

[56] References Cited

U.S. PATENT DOCUMENTS

3,679,309	7/1972	Hiragaki et al. ....	356/368
3,912,928	10/1975	Rush et al. ....	250/302
4,511,757	4/1985	Ors et al. ....	178/68.5
4,521,111	6/1985	Paulson, Jr. et al. ....	356/367
4,582,520	4/1986	Sturm ....	65/3.43
4,586,820	5/1986	Yokoyama et al. ....	356/317

Primary Examiner—Janice A. Howell  
Assistant Examiner—Constantine Hannaher  
Attorney, Agent, or Firm—J. F. Spivak

[57] ABSTRACT

A non-destructive method for determining the degree of cure of a polymer, e.g., a polymer film, is based upon measuring the degree of free space rotation of a fluorophore added to the polymer system through fluorescent measurements of the fluorophore. The results can be used to control, on-line, the polymerization of the polymer.

14 Claims, 6 Drawing Figures

