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**Application of a Measuring Type Television System
to Slow-Fracture Studies of Polymeric Materials**

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By using a measuring type television system some preliminary studies on slow fracture in PMMA were performed to know the applicability of the system to the precise detection of the fracture start and to some quantitative measurements.

The time resolution was about 0.1 second. The minimum detectable crack growth length at the fracture start was about $50\ \mu$. The critical stress intensity factor for precracked tensile specimens under the extension rate of 0.01 mm/min. was $0.82\ \text{MN/m}^{3/2}$.

It has been shown that the stress intensity factor for the moving crack can be measured continuously by a shadow spot method within an experimental error of 10 %. The maximum crack velocity just before the onset of fast fracture was measured to 10~20 mm/sec.