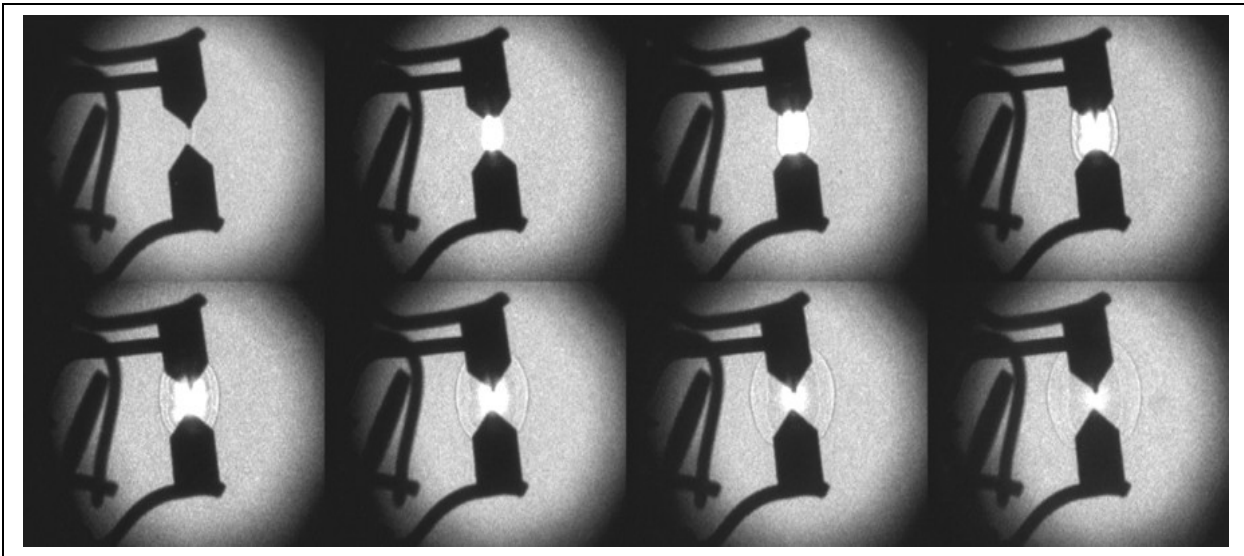




## Application Note 12

### Schlieren Imaging of Shock Wave from Trigger Air Spark Gap



#### IMAGING PARAMETERS

SIM8 Camera running at 5 Million fps, 35 ns  
Exposures with Pseudo Schlieren Optical system. The field of view is about 10cm x 8cm.

#### OVERVIEW OF EXPERIMENT

The Air Spark Gap with 0.75 uF Capacitor and 1.5KV Charge Voltage across the 2 mm air gap.  
Two of the SIM's output triggers were used to synchronize the triggering of the spark gap and to pre-trigger the flash lamp used for the Schlieren light source.

#### EQUIPMENT PARAMETERS

A 1.5 msec duration xenon flash lamp directly coupled to a 0.125 inch diameter fibre light guide which was the point source. A 200 mm f2.5 lens was used to collimate the point source into a parallel beam. The Objective lens, a Nikon 85 mm f1.8 with extension tubes, was used to both focus the event into the camera at about 1:1 magnification. With the lens position away from the camera using the extension tube, the parallel light focuses at the infinity focus point of the objective lens, which then re-diverges to produce the background light on the image plane to produce the Schlieren imaging effect.