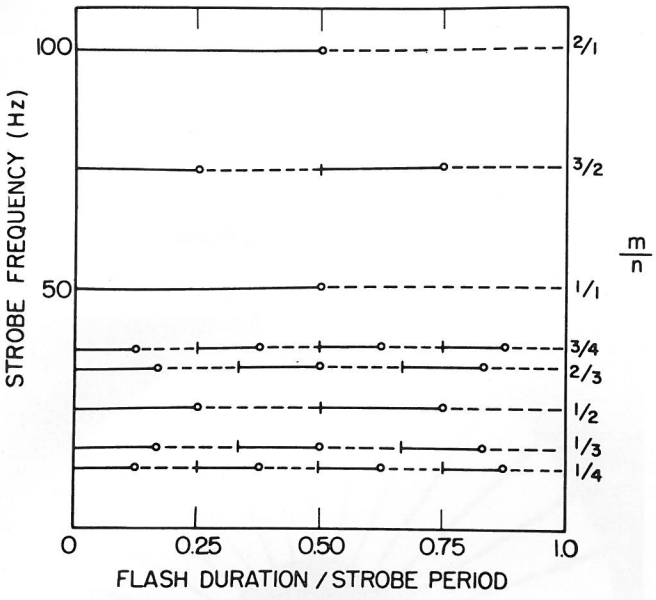


**Fig. 2. Stroboscopic phenomena at various flash frequencies and flash durations, calculated for a moving square-wave grid with a ratio of white to black width equal to 7:1, Fig. 1(a), and a recurrence frequency of 50 Hz. Horizontal lines represent the most clearly observed resonances, with positive and negative images indicated by solid and dotted lines, respectively. The order of resonance, m/n, is indicated on the right of the graph. Circles represent high contrast transitions and bars represent low contrast transitions (see text). The left- and right-hand edges of the graph represent infinitesimally short on and off times, respectively, of the flash.**

point, and a low contrast transition which is uniformly gray at the transition point. To visualize these transitions more clearly, it is helpful to consider the calculation of the illumination pattern in a simple case. For example, if the display consists of narrow bright bars of a dark background and the flash frequency satisfies the resonance condition, then, for very short flash durations, the graph of illumination versus position is a series of narrow trapezoids separated by wide regions of low illumination. As the flash duration is increased, the trapezoids widen. A high contrast transition occurs when the width of the trapezoids becomes equal to the width of the intervening dark regions, and a low contrast transition occurs if and when the trapezoids eventually overlap. At longer flash durations, a similar argument holds, and the two types of transitions occur alternately. These transitions for a typical experiment are indicated in Fig. 2. The predicted intensity patterns and transitions have been experimentally confirmed.

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