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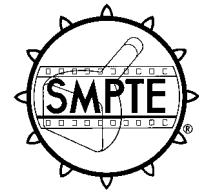
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SMPTE RECOMMENDED PRACTICE

Photographic Recording Technique for Measuring High-Speed Camera Image Unsteadiness



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1 Scope

1.1 Specification

This practice specifies a photographic method of recording and measuring high-speed motion-picture image unsteadiness.

1.2 Image-steadiness methods

Existing image-steadiness methods are applicable to professional motion-picture cameras showing vertical image-steadiness accuracy within 0.0004 in (see annex A).

1.3 Application

The procedure for measuring image unsteadiness, described in this practice, is far more practical for high-speed, rotating-prism motion-picture cameras usually showing unsteadiness characteristics greater than 0.0004 in.

2 Measurements procedure

2.1 Film exposure

2.1.1 Double exposure

Film shall be double exposed to produce overlapped images of the plus-sign target.

2.1.2 Target

The target shall be opaque, except for a plus sign transmitting sufficient light for exposure through lines no wider than 1-mm on an 8 in x 10 in field.

2.1.3 Backlighting

The target shall be backlit.

2.1.4 First exposure

The first exposure shall be made in a professional camera known to afford image steadiness within 0.004 in.

2.1.5 Second exposure

The second exposure shall be made in a high-speed motion-picture camera, as shown in figure 1.

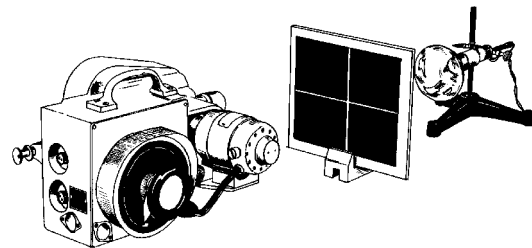


Figure 1 – Typical set-up for second exposure

2.1.6 Exposure adjustments

Exposure shall be adjusted for each camera to produce equal density for both plus-sign images.

3 Recording unsteadiness data

3.1 Projection

Processed film shall be projected onto a rotating drum wrapped with recording-type paper (cut 1.5 in x 24 in), as shown in figure 2.

3.1.1 The projector shall be positioned approximately 24 in from the drum, with both horizontal