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detector being an EMI 9635 photomultiplier with Corning 7-59 and Chance Pilkington HA3 filters interposed. Hence if T is the transmission factor for a smoky glass filter measured with a betalight, the transmission factor, T*, for fluorite TL is given by

$$\log T^* = 1.43 \log T$$

In Conclusion

Although it is possible to postulate that the rogue a-values are due to the chance presence of abnormal fluorite grains this does not square with the absorption observations.

Acknowledgements

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EVEN MORE ON FILTERS FOR LABORATORY ILLUMINATION

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In the report of Sutton and Zimmerman (1978) on UV filters from Solar Screen Co., they did not include the information that this company also makes pink screens in addition to white and amber. Considering the fact that the EMI 9635 photomultiplier is effectively "blind" at wavelengths greater than 630nm, it was thought that exposing this type of photo cathode to "pink" light (when the high voltage is removed) may induce less dark current pulses when the high voltage is subsequently put on. In addition, this light color should reduce short wavelength bleaching effects in TL samples.

Figure 1 shows the light transmission through a single thickness of Solar Screen pink. When compared to the Solar Screen amber, it is obvious that the pink screen transmits more in the violet-green wavelength region (400-500nm) but less in the orange-red region (575-700nm). This evidence would certainly damage the argument for the use of pink filters with an exposed EMI 9635 photo cathode and indicate that it may be more harmful than amber filters for bleaching in the shorter wavelength region.

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It appears that the filter described by Jensen and Barbetti (1979) is the best compromise when regarding the response of the human eye, short wavelength bleaching and use with bialkali type photo multipliers.

Jensen, H. and Barbetti, M., Ancient TL #7, p. 10, 1979
Sutton, S. and Zimmerman, Ancient TL #5, p. 58, 1978

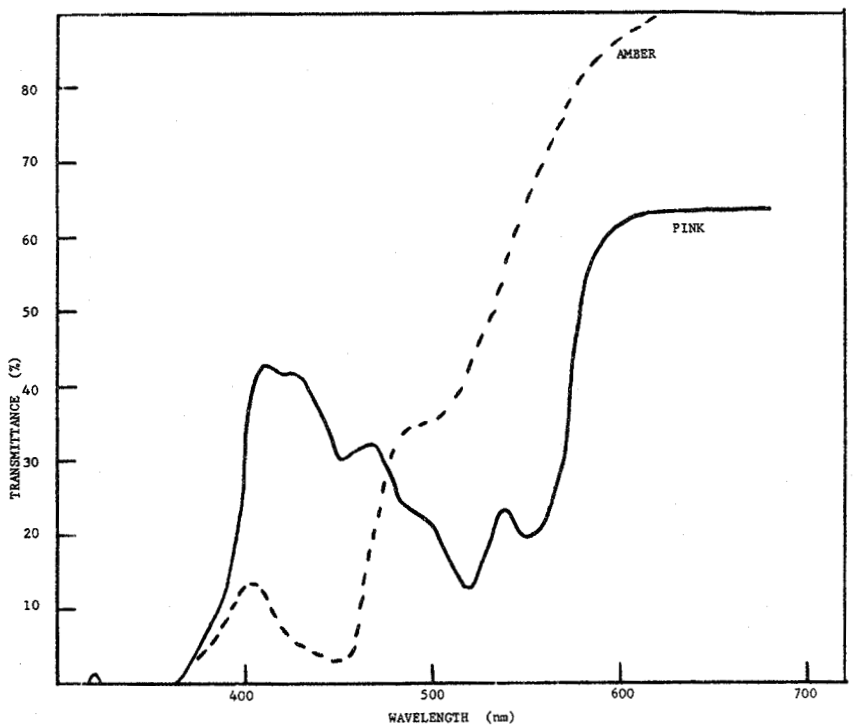

Figure 1: Light transmission through a single thickness of Solar Screen "Pink" (solid line) and "Amber" (broken line, afte Sutton and Zimmerman, 1979). Measured with a Cary recording spectrophotometer model 14, Chemistry Department, Brookhaven National Laboratory.

A CONVENIENT DOSIMETER FOR MEASURING THE ENVIRONMENTAL RADIATION DOSE RATE AS IT APPLIES TO THERMOLUMINESCENCE DATING

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Knowledge of the environmental radiation dose rate, R_e, is generally essential to an application of the usual methods of thermoluminescence dating. While it is possible to eliminate it from the calculations using the subtraction technique, which requires the application of both the fine grain and inclusion methods to the same sample, this is time consuming and subject to substantial errors unless great care is exercised.