

PROBLEMS OF CALIBRATION OF ABSOLUTE MAGNITUDES AND TEMPERATURE OF STARS

SYMPOSIUM No. 54

The I.A.U. Symposium No. 54 on the problems of calibration of absolute magnitudes and temperatures of the stars held in Geneva in September 1972, brought together some 90 participants. Meeting point of astrometrists, spectroscopists, photometrists and builders of models of stellar atmospheres, this Symposium allowed a positive confrontation between the theoretical and experimental methods, showing also the necessity of fundamental data which permit the establishment of calibrations.

Part I deals with the methods of calibration of absolute magnitudes from trigonometric and statistical parallaxes, while Part II contains the recent results for the determination of absolute magnitudes from open clusters. The presentation of the luminosity criteria (Part III) demonstrates the effort undertaken at present for the giants and supergiants. The hydrogenline photometry (Part IV) is suitable to obtain many values of absolute magnitudes. The calibration of the stellar flux (Part V) was discussed at some length, principally the problems concerning the ultraviolet fluxes obtained by OAO-2. We have now at our disposal models of stellar atmospheres, but nevertheless we must take into consideration the following two questions: Regardless of the degree of elaboration of series of models, just how can they be used for calibration purposes? And how much is this calibration sensitive to the quality of the model theory? These two questions are the basis of the discussion in Part VI. The important problem of the temperature calibration and the bolometric corrections is contained in Part VII, while the last part (VIII) is dedicated to discussion about the stars which should be selected for observation by photometrists, spectroscopists and astrometrists.

Audience:

Graduate students and scientists in astrophysics (stellar classification).

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