Fall 1999 14 November 1999

Ay192 Lecture Schedule

PRINCIPLES OF ASTRONOMICAL MEASUREMENT

Monday and Wednesday 2:45 to 4:15 P.M.

Observatory Classroom

Sept 22 Wed Introduction - Objectives, Definitions JH+IS

Sept 27 Mon Signal-to-Noise JH
Sept 29 Wed Geometrical Optics JH

Oct 4 Mon Telescopes/OIR JH
Oct 6 Wed Telescopes/HEA JH

Oct 11 Mon — Columbus Day —
Oct 13 Wed External Signal Degradation - JH

Oct 18 Mon External Signal Degredation JH
Oct 20 Wed Telescopes/Antennas L. Greenhill

Oct 25 Mon Detectors - Basic Issues JH
Oct 27 Wed Detectors - Advanced JH

Nov 1 Mon Detectors - Charge Coupled Devices JH
Nov 3 Wed Detectors - Infrared Arrays JH

Nov 8 Mon Interferometry/Radio IS
Nov 10 Wed Interferometry/Optical IS

Nov 15 Mon Instrumentation - Broad Band Measurments OIR JH
Nov 17 Wed Astrometry IS

Nov 22 Mon Instrumentation - Radio Spectral Line Measurements IS
Nov 24 Wed —- Thanksgiving —-

Nov 29 Mon Observational Phase Space JH
Dec 1 Wed Instrumentation - Radio Receivers IS

Dec 6 Mon Instrumentation - Spectrographs JH
Dec 8 Wed Instrumentation - Polarization IS

Dec 13 Mon Experimental Statistics - Errors, Hypothesis Testing JH
Dec 15 Wed Experimental Statistics - Parameter Estimation JH

Dec 20 Mon Telescopes of the Future JH+IS

Jan 5 Mon Final Exam Review (if Desired) JH+IS

Problem Sets will be handed out at $\sim$ 2 week intervals. There will be a (*hard!*) take home final exam.

The Text is *Data Reduction and Error Analysis for the Physical Sciences* by Bevington. Two other books, *Statistics for Nuclear and Particle Physicists* by L. Lyons and *Optical Radiation Detectors* by Dereniak and Crowe are highly recommended but not required. We have also ordered *Detection of Light from the Ultraviolet to the Submillimeter*, by G. Rieke and Electronic Imaging in Astronomy by Mclean, but both are temporarily out of print.

JH = John Huchra, IS = Irwin Shapiro

= John Huchra, P-309, 5-7375 Office Hours by appointment
= Irwin Shapiro, P-209, 5-7100 " "