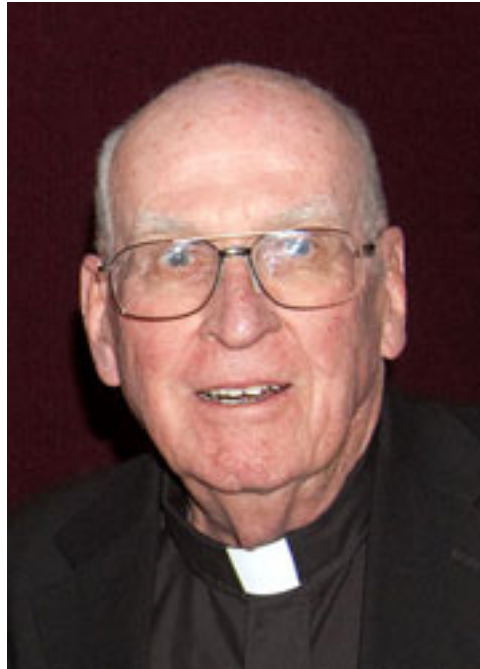




Fr. George Vincent Coyne, SJ Director of the Vatican Observatory



Most important awards, prizes and academies Academies

American Astronomical Society; American Physical Society; Astronomical Society of the Pacific; International Astronomical Union; Optical Society of America; Pontifical Academy of Sciences. Honours: Ph.D. honoris causa, St. Peter's University, Jersey City, NJ, USA (1980); Loyola University, Chicago, IL, USA (1994); University of Padua, Italy (1995); Jagiellonian University, Crakow, Poland (1997).

Summary of scientific research

The research interests of George Coyne have ranged from study of the lunar surface, antecedent to the NASA Ranger and Apollo Programs, to the birth of stars. He has pioneered a special technique, polarimetry, as a powerful tool in astronomical re-search. Currently he is studying cataclysmic variable stars, binary stars where one star is a superdense object which is capturing matter from its companion. He is also searching for protoplanetary disks about young stars. He has published more than 100 articles in reviewed scientific journals and has been the editor of a number of books. Parallel to his scientific research he has developed an interest in the history and philosophy of science and in the relationship between science and religion. Thus he founded the series of studies concerning controversies about Galileo, entitled Studi Galileiani, and he is one of the principal organizers of a series of conferences on the theme of Scientific Perspectives on

Main publications

Coyne, G.V., 'Comparative Spectrophotometry of Selected Areas on the Lunar Surface', *Astron. J.*, 67, p. 574 (1962); Coyne, G.V. and Gehrels, T., 'Wavelength Dependence of Polarization. VIII. Interstellar Polarization', *Astron. J.*, 71, p. 355 (1966); Coyne, G.V. and Gehrels, T., 'Wavelength Dependence of Polarization. X: Interstellar Polarization', *Astron. J.*, 72, p. 887 (1967); Coyne, G.V. and Kruszewski, A., 'Wavelength Dependence of Polarization. XI: Mu Cephei', *Astron. J.*, 73, p. 20 (1968); Coyne, G.V. and Kruszewski, A., 'Wavelength Dependence of Polarization. XVII: Be-type Stars', *Astron. J.*, 74, p. 528 (1969); Coyne, G.V. and Wickramasinghe, N.C., 'Wavelength Dependence of Polarization. XVIII. Interstellar Polarization and Composite Interstellar Particles', *Astron. J.*, 74, p. 1179 (1969); Coyne, G.V., 'Mass Exchange in Beta Lyrae', *Astrophys. J.*, 161, p. 1011 (1970); Coyne, G.V., Lee, T. and Rieke, G., 'Photometry and Polarimetry of V1057 Cygni', *Publ. Astron. Soc. Pacific*, 84, p. 37 (1971); Coyne, G.V., Gehrels, T. and Serkowski, K., 'Polarization by Interstellar Grains', *Proceedings of Symposium #52, IAU, Interstellar Dust and Related Topics*, (J. Mayo Greenberg and H.C. van de Hulst, eds.), 1973; Coyne, G.V., 'Polarimetry of R CrB at Visual Light Minimum', *Astrophys. J.*, 186, p. 961 (1973); Coyne, G.V., Capps, R. and Dyck, H.M., 'A Model for the Observed Polarized Flux for Zeta Tauri', *Astrophys. J.*, 184, p. 173 (1973); Coyne, G.V., 'Polarimetry in the Emission Lines of Shell Stars', *M.N.R.A.S.*, 169, p. 7 (1974); Coyne, G.V. et al., 'The Peculiar Object HD 44179 (The Red Rectangle)', *Astrophys. J.*, 196 (1975); Coyne, G.V. and McLean, I.S., 'Wavelength Dependence of Polarization. XXX. Intrinsic Polarization in Phi Persei', *Astron. J.*, 80, p. 702 (1975); Coyne, G.V., Kemp, J.C., Tapia, S., Rieke, G. and Lebofsky, M., 'Infrared and Visible Polarimetry and Photometry of Highly Variably Quasi-Stellar Sources', *Astrophys. J. Lett.*, 218, L37 (1977); McLean, I.S. and Coyne, G.V., 'Spectropolarimetry of o Ceti (Mira): Discovery of Polarized Balmer Emission', *Astrophys. J. Lett.*, 226, L145 (1978); Coyne, G.V., McLean, I.S., Serkowski, K. and Frecker, J.E., 'High Resolution Polarization Structure of H β in Be-Shell Stars Measured with a New Digicon Spectropolarimeter', *Astrophys. J.*, 228, p. 802 (1979); Coyne, G.V., Tapia, S. and Vrba, F., 'Wavelength Dependence of Polarization. XXXIII. The α Persei Star Cluster', *Astron. J.*, 84, 356 (1979); Coyne, G.V., 'Wavelength Dependence of Polarization. XXXIV. Changes in Polarization Across TiO Bands', *Astron. J.*, 84, p. 1200 (1979); McLean, I.S., Coyne, G.V., Frecker, J.E. and Serkowski, K., 'Detection of Polarization Structure Across the Emission Lines of the Wolf-Rayet Star HD50896', *Astrophys. J. Lett.*, 231, L141 (1979); Tapia, S. and Coyne, G.V., 'Upper Limits for the Luminosity of a dM Companion in AM Herculis Objects', *Close Binary Stars: Observations and Interpretations*, IAU Symposium No. 88 (M.J. Plavec, D.M. Popper and R.K. Ulrich, eds.), D. Reidel: Dordrecht, p. 471, 1980; Vrba, F.J., Coyne, G.V. and Tapia, S., 'Observations of Grain and Magnetic Field Properties of the R. Coronae Australis Dark Clouds', *Astrophys. J.*, 243, p. 489 (1981); Coyne, G.V., Magalhaes, A.M., Moffat, A.F., Schulte-Ladbeck, R., Tapia, S. and Wickramasinghe, D., *Polarized Radiation of Circumstellar Origin*, (eds.), Vatican Obs. Publ. (1988); Magalhaes, A.M., Piirola, V., Coyne, G.V. and Rodrigues, C.V., 'Optical Polarimetry of

Reddened Stars in the Small Magellanic Cloud', *Interstellar Dust*, IAU Symposium 135 Dordrecht: Reidel (1988); Rubin, V. and Coyne, G.V., *Large Scale Motions in the Universe*, (eds.), Princeton, Princeton University Press (1988); Minniti, D., Coyne, G.V. and Tapia, S., 'Interstellar Polarization in the Field of the Globular Cluster M22', *Astron. Astrophys.*, 236, p. 371 (1990); Piirola, V., Coyne, G.V. and Reiz, A., 'Multicolor (UBVRI) Polarimetry of Magnetic Cataclysmic Variables', *Astrophys. Space Sci.*, 170 (1990); Piirola, V., Scaltriti, F. and Coyne, G.V., 'Circumstellar Disks Deduced from Sub-arcsecond Polarization Observations of Two Young Stars', *Nature*, 359, pp. 399-401 (1992); Piirola, V., Hakala, P. and Coyne, G.V., 'The Discovery of Variable Polarization Over the 13.9 Minute Spin Period of the Intermediate Polar RE 0751+14', *Astrophysical Journal*, 410, L107-L110 (1993); Vrba, F.J., Coyne, G.V. and Tapia, S., 'An Investigation of Grain Properties in the Rho Ophiuchi Dark Cloud', *Astron. J.*, 105, p. 1010 (1993); Piirola, V., Coyne, G.V., Larsson, S., Takalo, L. and Vilhu, O., 'Polarimetry of AM Her type Binaries', V, 'The Asynchronous (?) Polar BY Cam = H0538+608', *Astron. Astrophys.*, 283, pp. 163-174 (1994).