

# The Use of Quasars for the Construction of a Future Extragalactic Inertial Reference Frame

C. de Veigt

Hamburger Sternwarte

Hamburg-Bergedorf, F.R.Germany

## Abstract

Quasars will provide optimal candidates for the construction of a future inertial extragalactic reference frame in astronomy. The selection of suitable candidate objects depends on their individual optical and/or radio properties. Optical and Radio quasar survey projects will provide a sound basis to achieve this goal.

Most aspects of this astrometric key-project have been discussed extensively in the recent literature. Instead of duplicating this effect here, a small selection of references is given which covers the main topics of this exciting field of research.

## 1 General discussion of reference frames

Hughes, J. (ed.), 1986. Reference Frames. In: *Highlights of Astronomy*, 7, ed. Swings, J.P., p. 51.

de Veigt, C., 1986. The extragalactic optical/radio reference frame. A progress report, IAU Comm. 24 Working Group. In *IAU Symp. 109, Astrometric Techniques*, eds. Eichhorn, H.K., Leacock, R.J., p. 173.

de Veigt, C., 1984. Interrelation of present optical and radio reference frames. In *IAU Symp. 110, VLBI and Compact Radio Sources*, eds. Fanti, R., Kellermann, K., Setti, G., p. 357.

de Veigt, C., Johnston, K.J., 1988. Reference frames in astrometry. In *IAU Symp. 128, The Earth's Rotation and Reference Frames for Geodesy and Geodynamics*, eds. Babcock, A.K., Wilkins, G.A., p. 25.

## 2 Catalogs of candidate sources and general observation programs

Argue, A.N. *et al.*, 1984. A catalogue of selected compact radio sources for the construction of an extragalactic radio/optical reference frame. *Astr. Astrophys.*, **130**, 191.

de Veigt, C., Johnston, K.J., Russell, J., Hughes, J.A., Jauncey, D., Nicholson, G., 1988. Toward the establishment of a radiooptical reference frame. In *Proc. HIPPARCOS INCA Conference, Sitges, Jan. 1988*, in press.

Johnston, K.J., Florkowski, D., de Veigt, C., 1988. Precise VLA astrometry of HIPPARCOS radio link stars. In *Proc. HIPPARCOS INCA Conference, Sitges, Jan. 1988*, in press.

de Veigt, C., Hughes, J.A., Jauncey, D., Johnston, K.J., Nicholson, G., 1988. An observational program for a unified optical radio reference frame. In *IAU Coll. 100, Fundamentals of Astrometry, Cel. Mechanics*, eds. Eichhorn, H.K., Pakvor, I., in press.

## 3 Results of radio and optical observation programs

de Veigt, C., Gehlich, U.K., 1982. Precise optical positions of radio sources in the FK4-system

- II. Results from 28 sources on the northern hemisphere and a preliminary comparison of the optical-radio reference frame. *Astr. Astrophys.*, **113**, 213.
- de Veigt, C., 1982. Radio sources for precise astrometry. *Abh. Hamb. Sternw.*, **10**, Heft 3, 119.
- de Veigt, C., Florkowski, D., Johnston, K.J., Wade, C.M., 1985. Stellar radio astrometry I, II, III. *Astr. J.*, **90**, 2381, 2387, 2390.
- de Veigt, C., Schramm, J., Johnston, K.J., 1987. Precise optical and radio astrometry of the quasar 1928+738. *Astr. J.*, **93**, 261.