

Geralico Andrea

Position: Postdoc

Period covered: October 1st, 2006 – present



I Scientific Work

- 1 $3+1$ splitting of spacetime: measurement processes and the role of observers in general relativity;
- 2 test particle dynamics in black hole spacetimes; motion of small extended bodies (neutral or charged test particle endowed with an internal structure described by its spin and quadrupole moment);
- 3 general relativistic perturbation theory of Einstein-Maxwell systems;
- 4 exact solutions of Einstein's field equations;
- 5 gravitational lensing techniques in strong gravitational fields;

II Conferences and educational activities

Conferences and Other External Scientific Work

ICRANet Workshops 2001-2008

Xth Brazilian School of Cosmology and Gravitation (Rio de Janeiro, Brazil, 2002)

Eleventh M. Grossmann Meeting (Berlin, DE, 2006)

APS April Meeting (Jacksonville, US, 2007)

III 2007-2008 List of Publications

Bini D., **Geralico A.**, Ruffini R.,

On the equilibrium of a charged massive particle in the field of a Reissner–Nordström black hole,
Physics Letters A, vol. 360, 515-517, 2007.

Bini D., Cherubini C., **Geralico A.**, Jantzen R. T.,

Circular motion in accelerating black hole spacetimes,
International Journal of Modern Physics D, vol. 16, 1813-1828, 2007.

Bini D., **Geralico A.**, Ruffini R.,
Charged massive particle at rest in the field of a Reissner–Nordström black hole,
Physical Review D, vol. 75, 044012, 2007.

Bini D., de Felice F., **Geralico A.**,
Strains and axial outflows in the field of a rotating black hole,
Physical Review D, vol. 76, 047502, 2007.

Bini D., **Geralico A.**, Ruffini R.,
Charged massive particle at rest in the field of a Reissner–Nordström black hole. II. Analysis of the field lines and the electric Meissner effect,
Physical Review D, vol. 77, 064020, 2008.

Bini D., Cherubini C., **Geralico A.**, Jantzen R. T.,
Physical frames along circular orbits in stationary axisymmetric spacetimes,
Gen. Relativ. Gravit., vol. 40, 985-1012, 2008.

Bini D., Fortini P., **Geralico A.**, Ortolan A.,
Quadrupole effects on the motion of extended bodies in Schwarzschild spacetime,
Classical and Quantum Gravity, vol. 25, 035005, 2008.

Bini D., Fortini P., **Geralico A.**, Ortolan A.,
Quadrupole effects on the motion of extended bodies in Kerr spacetime,
Classical and Quantum Gravity, vol. 25, 125007, 2008.