Abstract. The Explicit Equivalence Principle (EEP) comes from fact that: the relativistic changes occurring in a system (after changes of velocity and field potentials) cannot be detected by local observers moving with it because all of the bodies and every round trip of light used to measure them (like in Michelson-Morley experiments) must change linearly (in identical proportion) after identical circumstances. Only in this way every local ratio and every local law cannot possibly change. This means that *particles and stationary radiations must have identical physical laws*. This has been verified by using particle models made up of stationary radiations and theoretical frames that have not changed in the same way as the objects. The theoretical properties of stationary radiations are in full agreement with special relativity, quantum mechanics and the G tests [**?**], [2]. But the EEP fixes *linear* properties, without singularities, for all of them: the G fields, the black holes (BHs), and the universe. An eventual universe expansion cannot change any relative distance because the G expansion of matter occurs in identical proportion. The linear BHs, in the longitudinal [illegible]

the average, *the universe entropy must be constant.*

2. Cosmic Tests for the Explicit Equivalence Principle. The new kind of univ e n (h) Tj□7.5 TD - .15 Tc (e) Tj□11.l

according to momentum conservation, the rejection angles of the relativistic particles are smaller than the incident ones. Thus they must have higher probabilities to escape from the gravitational field along the magnetic axis. These particle beams correspond with the *cosmic jets* observed in central regions of galaxies. Such regions are just those with the highest probabilities for the existence of both: rather naked BHs and gas clouds. Such jets can excite fluorescence on gas and particles in their paths.

In the rather naked BHs left over after some supernovas, the eventual precession of the magnetic poles can drive the jets along cones producing visible rings in their intersections with spherical shells of matter ejected from earlier explosions[2]. These jets are obvious in the Hubble Space Telescope pictures of: SNA1987A, the Hourglass, the Egg Nebulas, and in PRC95-24 (C. Burrows, J. Hester, J. Morse and NASA). They have been available in internet, from NASA.

d) From points a) and c), the most powerful stars should have a NS inside of them[1]. Their energies should come both from nuclear fusion and neutron stripping. The last reactions would convert large fractions of the G work into nuclear potential energy that would be used up in the external shell [2] [?]. This would prevent all of them: local overheating, neutrino cooling and star collapse (urca process).

The new star model has a better defined mass- luminosity relation [2] [?], which is roughly proportional to $M^{3.7}$. This one is consistent with that of *main sequence stars*. This one is also consistent with the higher densities and temperatures of such stars, and with *the low neutrino luminosity of the Sun and its magnetic activity.*

The EEP fixes more simple and unified physical and astrophysical contexts that are self-consistent and consistent with the observed facts. This is due to the fact that everything is fixed by properties of light. This way reduces the number of independent variables and the uncertainties due both to experiments and to ambiguities of the ordinary language. More details are in the reference 2.

References.

REFERENCES

[1] R. A. Vera, International Journal of Th. Phys **20**, 19-50 (1981)

[2] R. A. Vera, *The New Universe Fixed by the Equivalence Principle and Light Properties* Ediciones Universidad de Concepción. Casilla 1557. Correo 3. Concepción. Chile. <mbachman@udec.cl> (1997)

[3] R. A. Vera. *Nonlocal Conservation Laws Derived from a more Explicit Equivalence Principle* (Work presented in this Meeting)

[4] Vera, R. A. *A New Model for the Structure and Evolution of MS Stars* . Astronomical Society of the Pacific Conference Series. **40**, 798pl nc anaTc (f)sSTf)P 0 TD 0.375 Tc (7) Tj□5.25 0 TD (9) L0 TD