Table 1: Observational Verifications of General Relativity

The symbol Δ means change in. Hence, ΔP means change in the period, while Δv means change in the frequency (inverse of the wavelength). Note that the periastron^C advance for the pulsar^d PSR 1913+16 is more than 35,000 times greater than the perihelion advance for Mercury.

1. Comparison of theoretical and observed centennial precessions of planetary orbits.¹⁹

	<u>Planet</u>	General Relativity	<u>Observations</u>
	Mercury	43.03"	43.11" ± 0.45
	Venus	8.6"	$8.4" \pm 4.8$
	Earth	3.8"	$5.0" \pm 1.2$
	Icarus	10.3"	$9.8" \pm 0.8$
2. Gravitational deflection of starlight ²⁰ general relativity: 1.751"			observations: $1.70" \pm 0.10$
3. Gravitational deflection of radio signals from quasars ²¹ general relativity: 1.751"			observations: $1.73" \pm 0.05$
4. Radar measurement of Mercury's perihelion ^C advance ²² general relativity: 43.03"			observations: $43.20" \pm 0.30$
5. Rate of advance of periastron for the binary pulsar PSR 19 general relativity: 4.2' + 0.3 per year			13+16 ^{23,24} observations: 4.225° ± 0.002/year
6. Orbital period change due to gravitational radiation for the binary pulsar PSR $1913+16^{24}$ $\Delta P experiment/\Delta P theory=1.13 \pm 0.19$			
7. Echo delays of laser signals reflected from Apollo-placed general relativity beta parameter = 1.0 general relativity gamma parameter = 1.0		cubes on the moon ²⁵ observations: 1.003 ± 0.005 observations: 1.008 ± 0.008	
8. Gravitational red shift of spectral lines on the earth's surface (Mössbauer effect) ²⁶ Δv experiment/ Δv theory = 0.9970 ± 0.0076			
9. Gravitationa	al retardation of radio sig general relativity gamm	gnals ²⁷ na parameter = 1.0	observations: 1.000 ± 0.001
10. Gravitational red shift of the neutral hydrogen spectral line ²⁸ Δv experiment/ Δv theory = 1.000000 ± 0.000070			
11. Gravitation	nal lens effect on quasar	^e images ^{29,30,31,32}	