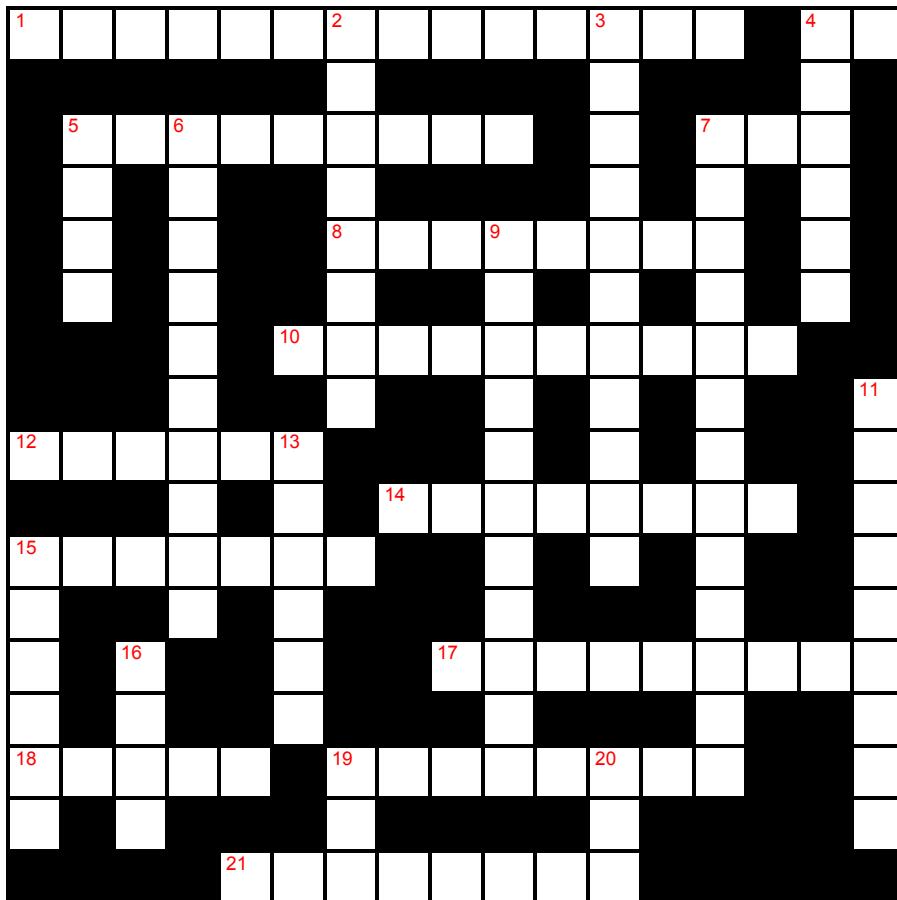


Astronomy_17x17_2008-10-19
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Across

1 Points in the vicinity of two massive bodies where each others' respective gravities balance. (8,6)

4 The constant equal to the ratio of the circumference of a circle to its diameter, which is approximately

3.141593. (2)

5 A unit of mass equivalent to the mass of the Sun. 1 solar mass = 1 Msun = 2^{1033} grams. (5,4)

7 The Chandra X-ray Observatory. It was launched by the Space Shuttle in July 1999, and named for S. Chandrasekhar.

(3)

8 A metric unit of length equal to one ten billionth of a meter (or 0.0001 micron); used to specify wavelengths of electromagnetic radiation. (8)

10 The distance between adjacent peaks in a series of periodic waves. (10)

12 The gaseous state of hot ionized material consisting of ions and electrons and present in the stars and fusion reactors. (6)

14 Electromagnetic radiation with wavelengths longer than visible light but shorter than

radio waves. (8)

15 An elementary particle with 0 charge and mass about equal to a proton; enters into the structure of the atomic nucleus. (7)

17 A property of a wave that describes how many wave patterns or cycles pass by in a period of time. (9)

18 Optical device that produces an intense monochromatic beam of coherent light. (5)

19 A shift in the spectra of distant galaxies toward longer wavelengths. (3,5)

21 The lightest and most abundant element. (8)

its own gravity; it is composed of neutrons. (7,4)

4 The smallest (quantum) unit of light/electromagnetic energy. (6)

5 A celestial body of hot gases that radiates energy derived from thermonuclear reactions in the interior. (4)

6 The rate at which a star or other object emits energy, usually in the form of electromagnetic radiation. (10)

7 An effect that demonstrates that photons have momentum. (7,6)

9 Violent eruptions of gas on the Sun's surface. (5,6)

Earth. Opposite of perigee. (6)

15 An immense cloud of gas (mainly hydrogen) and dust in interstellar space. (6)

16 A measure of the total amount of material in a body. (4)

19 The unit of plane angle equal to the angle at the center of a circle subtended by an arc equal in length to the radius (approximately 57.295 degrees). (3)

20 An atom with one or more electrons stripped off, giving it a net positive charge. (3)

Down

2 Electromagnetic radiation emitted during radioactive decay and having an extremely short wavelength. (5-3)

3 A star that has collapsed under

11 The distance that light travels in a vacuum in 1 year; 5.88 trillion miles or 9.46 trillion kilometers. (5,4)

13 Apoapsis in Earth orbit; the point in its orbit where a satellite is at the greatest distance from the