

gams almost the present look.


The complete process of the creation spans approximately 100 million years. As we know from observations of other stars and from models of star evolution, the Sun will calmly shine for about 6 billion years. Then the reserves of hydrogen in the core will be exhausted, the whole interior will be “rebuild” and the Sun will change to a *red giant*. The inner planets may be completely destroyed. The red giant will explode as a nova in later phases, it will expand its envelope, what will be observable as a *planetary nebula* for a short time. Only a naked cooling core — a *white dwarf* — will remain from the Sun.


There is still a lot of open questions in the exploration of planetary systems. What can we await in the forthcoming years?

Cassini probe will explore Saturn and its moon system in detail, the exploration of Mars will continue for example by Mars Express and Mars Exploration Rover, Mercury will be mapped by Messenger and BepiColombo probes, New Horizons probe will be sent to Pluto. Stardust probe should bring samples of dust from the comet Wild 2, Hayabusha should obtain a piece from the near-Earth asteroid Itokawa, Dawn interplanetary probe will become an orbiter of the asteroids Vesta and Ceres.

We probably will discover hundreds of other extrasolar planets, some of them as small as our Earth. Future big space telescopes will allow to obtain spectra of their atmospheres. If we find spectral lines appertaining to nitrogen and oxygen molecules, we can hope, that there may exist biosphere on distant planets.

However, thousands of another, surprising discoveries cannot be predicted. . .

 Sluneční soustava 2003 je krátký dokumentární film pojednávající o našem planetárním systému: o Slunci, o planetách i o menších tělesech. Je určen pro žáky základních a středních škol i pro širokou veřejnost. Existuje v české a anglické jazykové verzi, jeho délka je 25 minut. Domovská WWW stránka je (<http://www.astrohk.cz/ss2003/>).

 The Solar System 2003 is a short documentary movie about our planetary system: about the Sun, planets and smaller bodies also. It is intended for pupils of grammar and high schools, even for general public. There exist Czech and English language versions, its length is 25 minutes. The homepage is (<http://www.astrohk.cz/ss2003/>).



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Sluneční soustava 2003; Hradec Králové, 2004.
Vydala: **Hvězdárna a planetárium v Hradci Králové**
vydání 1., 16 stran, náklad 100 ks
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