Nucleosynthese

Faculteit: Faculteit Natuur- en Sterrenkunde

ECTS-punten: 7.5 **Categorie:**M **Cursuscode:** NS-AP437M **Periode:** 30-08-2004 t/m 12-11-2004 (PER1)

Toegangseisen: .

Veronderstelde voorkennis: Sterevolutie

Voertaal English

Inhoud:

The principle aim of this course is to achieve an understanding of the origin of the elements, i.e. of the abundance distribution of all stable isotopes in our solar system and elsewhere in the universe. Stars form the vast majority of all isotopes, so a basic knowledge of stellar structure and evolution is required to follow this course. The following subjects are considered:

- Thermonuclear reaction rates and nuclear networks
- Big bang Nucleosynthesis
- Hydrostatic nuclear burning in stars
- Explosive nucleosynthesis in massive stars
- Explosive burning of degenerate matter in white dwarfs
- s-Process nucleosynthesis in AGB stars
- s-Process nucleosynthesis in massive stars
- The r-Process and the p-Process in Supernovae
- Element formation in the most massive stellar objects
- Cosmic ray induced element formation
- Principles of the chemical evolution of Galaxies

See also: http://www.astro.uu.nl/~langer/siu_web/nuc04.html

Cursusdoelen: The course aims at providing the student with sufficient knowledge and skills in the field of the course to: - Participate in and obtain access to current research, - be able to formulate still open questions of the field and relate these to important concepts and phenomena discussed in the course, - solve problems in situations as treated in class, and in new situations.

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Inschrijven via OSIRIS Online mogelijk: Ja **Inschrijven voor bijvakkers mogelijk:** Ja

Werkvorm	Blok	Groep	Rooster			Gebouw	Zaal
Hoorcollege	PER1	1	02-09-2004 t/m 04-11-2004	Donderdag	13.00 - 17.00	BBL	768 (N&S)
			07-09-2004 t/m 02-11-2004	Dinsdag	09.00 - 11.00	BBL	768 (N&S)
Werkcollege	PER1	1	02-09-2004 t/m 04-11-2004	Donderdag	15.00 - 17.00	BBL	768 (N&S)
			07-09-2004 t/m 02-11-2004	Dinsdag	11.00 - 13.00	BBL	768 (N&S)

Toelichting: **Algemeen:**
Werkcollege
Attendance required at least for 75% of all contact hours

Voorbereiding bijeenkomsten:

Toets	Blok	Gelegenheid	Rooster	Gebouw	Zaal
Tentamen	PER1	1			
Tentamen	PER2	2			

Toelichting: **Beoordeling:**
Tentamen
Assessment in this course aims at evaluating both the level of the students technical skills in solving problems in the field of the course, as well as expressing and formulating the fundamental concepts and principles involved and applying them to new, unfamiliar situations. Testing: Written or oral final exam.

Aanbevolen materialen:

Dictaat
collegedictaat
Boek
"Nucleosynthesis and Chemical Evolution of Galaxies", Bernard E.J. Pagel (Cambridge University Press) ISBN: 0521559588