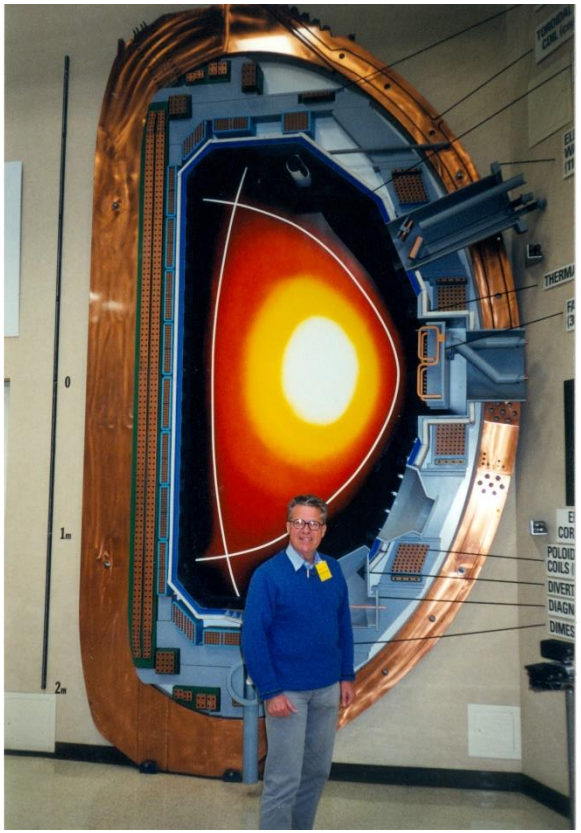
In memoriam
Dr. André Messiaen
16/03/1932 – 01/10/2021

Main scientific achievements

- ❑ Pioneering contributions to the physics of RF waves and ICRF antenna design (Ph.D. 1963)
- ❑ ERASMUS (Brussels): experimental studies of RF plasma heating at the first university tokamak in Europe (1975-1981)
- ❑ TEXTOR (Jülich): designed the first multi-MW ICRF antenna system in the world (1984)
  → *served as a prototype for the 32MW ICRF system at JET*
- ❑ ITER: several innovative ideas for the ITER ICRF antenna (since ~2004)
- ❑ DEMO: optimization of ICRF antennas for use in future fusion devices (since ~2015)



- ❑ **Last publication: A. Messiaen et al., Plasma Phys. Control. Fusion 63, 045021 (2021)**

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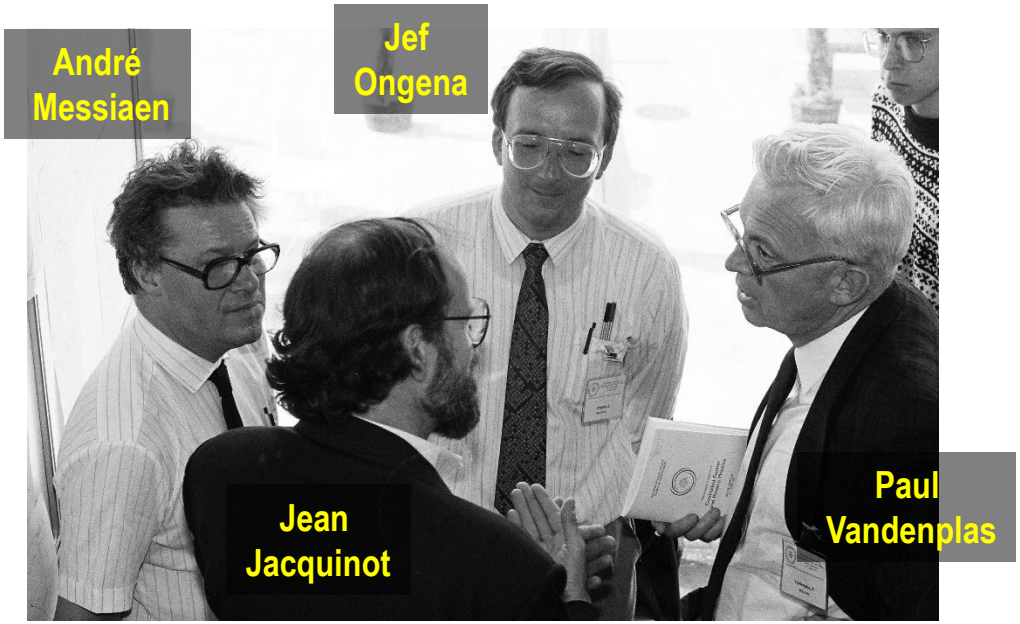

Discussions between André and RF physicists
at the EPS-1991 (Berlin)

André during coffee break
at the 17th RF Topical Conference, 2007
(Clearwater, USA)

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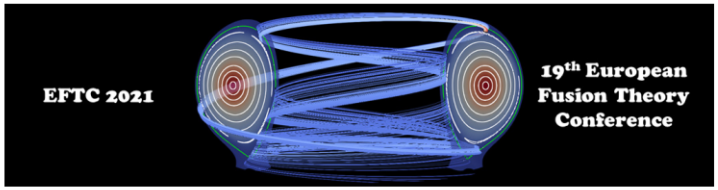
19th European Fusion Theory Conference



Abstract ID : **7**

ANTITER IV modeling of excitation by an ICRH antenna of near fields and of their propagation along the plasma edge in view of a future fusion reactor.

Content

ANTITER IV modeling of excitation by an ICRH antenna of near fields and of their propagation along the plasma edge in view of a future fusion reactor.
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2ITER Organization, Route de Vinon-sur-Verdon, 13067 St. Paul Lez Durance Cedex, France

Understanding the field excitation and power losses in the plasma edge from an ICRH antenna is of paramount importance to avoid impurity release from the edge in reactor conditions. The semi-analytical code ANTITER IV [1] provides a complete description in plane geometry (z along the total B0 field in front of the antenna, x the radial component) in the cold plasma approximation and with appropriate boundary conditions of the excitation of Fast (F) and Slow (S) waves in the inhomogeneous plasma in front of the antenna. For usual non-

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Presenter: MESSIAEN, andre (Royal Military Academy, 1000 Brussels, Belgium)

Track Classification: 6. Heating, current drive, and wave particle interactions

Contribution Type: Oral

Per aspera ad astra
('through hardships to the stars')

This conference: A. Messiaen et al., oral talk on Friday, 15/10/2021, 12:30 → unfortunately cancelled