

COOPERATIVES

COOPIN

(Bât. 563)

Information COOPIN par VM : XNEWS (COOPIN

Ouverture du lundi au vendredi de 13h.00 à 16h.30

Rappel.

Ristourne du 23 au 25 novembre sur :

- films, jumelles, appareils photo (*sauf appareil photo OLYMPUS AF-10 mini prix action Frs 149.-*) du stock - 10% supplémentaire.

Action HP

Pour l'achat d'une HP 48 G ou HP 48 GX, nous vous offrons un kit interface pour PC, HP F 1201A gratuit.

COOPIN avec la collaboration de CAVIAR HOUSE proposent les 30 novembre et 2 décembre 1994 : dégustation de foie gras, saumon fumé, caviar frais d'Iran, vodka Caviar House ainsi que le vin de Massandra (vin rouge liquoreux).

Présentation de coffrets et paniers pour vos cadeaux de fin d'année. Tarifs préférentiels pour tout le personnel du CERN.

Vous pouvez déjà commander pour les fêtes de fin d'année les produits de Sélection Caviar House : saumon pré-tranché, saumon entier, oie à la gelée de truffes, mini-party avec 50grs de caviar sevruga, foie de canard maison.

Livraison lundi 19 décembre et mardi 20 décembre.

UNICEF

Cartes de voeux disponibles au magasin Frs 19.- la boîte de 10.

AS-INTERFON

(Bât. 563)

Contactez-nous au 3339

Marché électro-ménager

Le Salon des Arts Ménagers vous a permis de vous documenter, nos deux principaux fournisseurs sont là pour les garanties que vous êtes en droit d'attendre aussi sur le long terme pour l'installation éventuelle des produits dont ils distribuent les marques suivantes :

CHEVILLARD

Route Nationale

à Saint Jean de Gonville

(Bosch, Brandt, De Dietrich, Hoover, Scholtès, Thomson). Jusqu'au 30 novembre, 2% de réduction supplémentaire.

PRIMADIS

20, rue Germain Someiller

Z.A.E. des Grands Bois (près de l'Aérodrome)

ANNEMASSE

(Blanco, Eram, Frigidaire, Laden, Liebherr, Magic Chef, Matfort, Neff, Robby, Sauter, Scholtès, Siemens). Jusqu'au 30 novembre, 3% de réduction supplémentaire.

Permanence hebdomadaire mardi 22 novembre 1994, de 14h.00 à 16h.00 au Secrétariat avec Voyage-Leman, pour vous informer sur les voyages avec les principaux Tours Operators ou à la carte, les opportunités, les locations Budget, la billetterie aérienne.

Marché VOLVO avec JORDAN-MEILLE, à Sauvigny.

Allez essayer la nouvelle VOLVO 960 (6 cylindres, 2.5 l., 24 soupapes, 170 CV, version berline ou break).

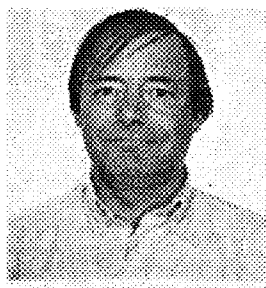
Actuellement, promotion sur les véhicules d'exposition (VOLVO 940 break Gentleman, VOLVO 850 Berline 2.0 l., ROVER 214 i cabriolet).

Evening Lectures Series

THURSDAY 8 DECEMBER 1994, at 8.30 pm

Main Auditorium

**Giant telescopes on Earth and on the Moon
Their use for detecting gravitational waves
and extra-solar planets**



by Pr. Antoine LABEYRIE

Antoine LABEYRIE initially worked on Bragg holograms and the holographic production of diffraction gratings. In 1970 he proposed the principle of "stellar speckle interferometry", which retrieves the diffraction-limited resolution of large telescopes, degraded by the turbulent atmosphere. He used it at Mount Palomar to gain a factor 50 in angular resolution with the 5m telescope, and discovered stellar features such as the predicted third body of Algol, the envelopes of the variable stars Mira Ceti and R Leo. Close binary stars were resolved, thus providing accurate measurements of their mass. Speckle interferometry is now routinely used on the largest telescopes to obtain high-resolution data on thousands of galactic and extra-galactic objects. To further increase the angular resolution, he proposed multi-telescope arrays and built a prototype "Interféromètre à deux télescopes" followed by a larger version. Operated since 1987 at Calern observatory in southern France, it provides data with 0.001" resolution. Orbital and lunar versions are being considered by the space agencies.

Antoine LABEYRIE also contributed to the design of the Hubble Space Telescope. He proposed a method for detecting gravitational waves near expected sources, a method for detecting extra-solar planets with ground or space telescopes, and a method using the diffraction effect associated with gravitational lensing for detecting invisible bodies in the near interstellar space.

Antoine LABEYRIE has side interests in solar civilisation projects and the neural-network structure of ecosystem signals.

The continuing trend towards larger telescopes, for better resolution, now leads to coherent arrays of telescopes with sizes soon to reach 600m. The angular resolution is already improved by a factor 700 with respect to conventional observing, and the gain will reach 6000 with 600m baselines. Projects under way in Hawai, in Chile and in Australia involve different designs, with up to 27 elements for achieving high-resolution image reconstructions. The performance being severely affected by the turbulent atmosphere of the Earth, adaptive correcting systems are being developed. Versions based in space or on the Moon are also being studied.

Among the new observations to be tackled with such instruments are the poorly understood phenomena occurring in globular clusters, at the centre of galaxies and in galactic jets. Peculiar galaxies, Seyfert galaxies, quasars, and gravitational lensing effects should also reveal some of their mysteries. Gravitational waves are potentially detectable by observing expected sources with the surrounding stars located in background galaxies. The stars should twinkle. Also, extra-solar planets should become detectable from the ground using techniques related to speckle interferometry. Similar, but invisible, bodies which may be located in interstellar space appear also detectable through the diffraction effect associated with gravitational lensing.

The lecture will be given in French with English interpretation.

Open to the public