

# TEL AVIV PROFESSOR PROVES GRAVITY ACTS IN WAVES

An experiment, which was successfully conducted by Prof. Dror Sadeh of the Department of Physics and Astronomy of Tel Aviv University, verifies that gravity acts in waves.

Prof. Einstein predicted in 1917 that gravity acts in waves. This theory is part of his general theory of relativity. Since then, many experiments have been conducted all over the world to verify this assumption.

The difficulty in conducting such an experiment derives from the fact that these waves are extremely weak. Nevertheless, since a new type of pulsating star, the pulsars, (were discovered in 1967) new hope arose for detecting such waves as it was assumed that pulsars have a very large density and rotate very quickly. According to Einstein's theory, they must emit gravitational waves, to the extent that some of these stars are relatively close to the earth (several tenths of light years), there seemed to be a good chance to detect the waves they emit. As was pointed out by F. Dyson at the I.A.S. (Princeton) and others.

Prof. Sadeh attempted to discover whether the whole earth can be used as a detector for gravitational waves. Prof. Sadeh assumed that a seismograph on earth should be able to detect these waves. As the effect of these waves is very small, vibration of the earth caused by these waves is one part in a thousand billion of a centimeter, there was a need to use an on-line computer attached to the seismograph. The data was then transferred to the large advanced computer of the University.

Prof. Sadeh's innovation was the use of the earth as a detector. Prof. J. Weber of the University of Maryland in the United States has for the last ten years been conducting experiments using another technique, namely the use of a

large mass in his laboratory. Prof. Weber's attempts to verify Einstein's theory and his experiments are very much appreciated in scientific circles around the world.

In the last three years, Prof. Sadeh has participated in the detection of four pulsars in the X-ray region. One of these pulsars has also been observed in the Florence and George Wise Observatory at Mitzpeh Ramon in the Nege. Prof. Sadeh is currently conducting related experiments at the observatory.

The gravitational experiment has been in preparation for one year. In this period, a sophisticated electronic system was built at the University. The research project itself took only four months. It was performed at the Geophysics Laboratory of the Weizmann Institute of Science in a cave near Eilat. The site was chosen because of its distance from inhabited areas. The Weizmann Institute Laboratory, which contains advanced equipment, was made available by the Weizmann Institute and Prof. Ari Ben Menachem, who directs the site, to Prof. Sadeh for this research project.

The discovery by Prof. Sadeh proves three things: 1. The existence of gravitational waves

which, until now, were merely an assumption. 2. That pulsating stars are neutron stars having a very high density and fast rotation. 3. That a seismograph on earth can serve as an astronomical telescope which measures the movement of stars.

This discovery has far-reaching implications. Among other things, it can provide a better understanding of gravitational forces that act on earth as well as a deeper understanding of the stars and their influence. It can also provide a better understanding of the various causes of earthquakes and other implications that no-one can foresee at this stage.

## Sicilian Pizza

HOME DELIVERY

# 734-1523

(In Somerset Shopping Center)



YOUR HOST

GIRLS-BOYS SIZES INFANTS TO 14



**SMALL FRY**  
*Children's Shop*

PHONE 735-0660  
OWNER JOE ERRAMOUSPE

Exclusive But Not Expensive 2415 LAS VEGAS BLVD. SOUTH



## Flowers

for All Occasions

### 384-6216

**PATIO FLOWER SHOP**  
WIENER - JONES BLDG.  
232 Las Vegas Blvd. So. Corner of Bridger

*All States Office Machines, Inc.*

2403 INDUSTRIAL ROAD  
LAS VEGAS, NEVADA 89102

(702) 735-8363

PICTURE TUBE SPECIALISTS ALL MAKES

AMERICAN **TV.** EXPERT SERVICE

*Electronics*

COLOR — BLACK & WHITE — ELECTRONICS

600 MAYFIELD STREET  
LAS VEGAS, NEVADA 89107  
PHONE: 702-878-9292

# GRAND OPENING



# Pat's



# Chinese Kitchen

AND

# COCKTAIL LOUNGE

## JUST A FEW DOORS AWAY FROM

# PAT'S

# CHINESE KITCHEN

## ALSO IN COMMERCIAL CENTER