



**TUIMP**

**The Universe In My Pocket**

**L'Univers dans ma poche**



Booklets



About us



Languages

# THE UNIVERSE IN MY POCKET

For children from 9 to 99 years old curious about astronomy

Little astronomy books to download

# The TUIMP project

- Creation of a collection of astronomy booklets
  - that can be downloaded for free from the internet,
  - the booklets are made from one-page pdf documents to be printed and folded into 16-page booklets.
- All fields in astronomy are covered, from basic concepts to the most recent achievements.
- 30 different titles so far.
- The project does not require any funding: all the participants give their time for free.

# TUIMP booklets by whom ?

- The texts are written by professional astronomers from all over the world
- The booklets contain many illustrations from verified sources
- The scientific content is revised by external referees

## Spiral galaxies

This is the most common type of large galaxies in the local Universe. They have spiral 'arms' that unwind outwards from a central bulge.

Along the spiral arms, we find clouds of gas and dust where new stars are being formed. In between the arms and in the bulge, the stars are older. They are yellow and while in the arms the stars are blue, and only about a million years old.

Spiral galaxies typically contain  $10^{11}$  \* stars.

The Milky Way is a spiral galaxy.

\*one hundred billion



The spiral galaxy NGC 1232 and its small companion NGC 1232A. This picture was obtained with the Very Large Telescope at ESO in Chile.



NGC 4565: a spiral galaxy seen edge-on. This image was obtained by Keith Quattrocchi, with a 40 cm telescope.

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Motion of four stars in the vicinity of the supermassive black hole SgrA\* in the centre of the Milky Way. The central white point corresponds to the radiation from the accretion disc surrounding SgrA\*.

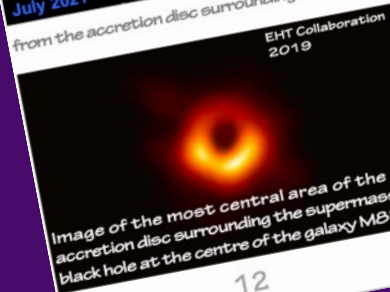


Image of the most central area of the accretion disc surrounding the supermassive black hole at the centre of the galaxy M87

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## Supermassive black holes

In addition to black holes created by the collapse of massive stars, there are 'supermassive' black holes at the centres of galaxies.

The 2020 Nobel Prize was awarded for the study of the orbits of stars occupying the most central region of our Milky Way, revealing the existence of a mass 4 million times the mass of the Sun, gathered in a region no larger than our Solar System.

Further observations of the Messier 87 galaxy in 2019 provided the first image of the immediate vicinity of another supermassive black hole, bringing strong support for the existence of these extremely massive objects.

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# TUIMP booklets for whom ?

- Anyone between 9 and 99 interested in astronomy
- Children in the classroom
- University students
- Open public conferences
- Planetarium shows
- Astronomy festivals



# TUIMP in many languages



- The booklets are proposed for translations to build up an small encyclopedia in local languages
- Translators are astronomy professionals, amateurs or students working individually or in groups and for free
- 14 languages are available so far:
  - Aafan Oromo, Albanian, Arabic, Armenian, English, French, Greek, Isizulu, Italian, Polish, Portuguese, Romanian, Russian, Spanish
- Desired languages
  - Languages of Asian countries and more African countries
  - Languages of minorities on all continents

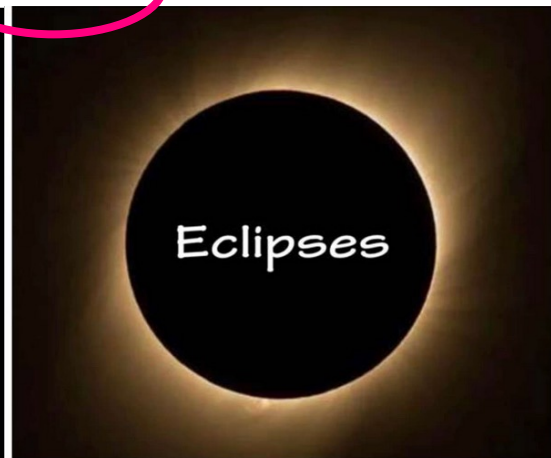
# TUIMP in Ethiopian schools

- Two perspectives reaching in total 40 schools
  - Eventful/occasional: TUIMP booklets are used in the case of special events (eg. an eclipse) or planned outreach programs where special presentations are conducted.
  - Teaching programs: regular programs in 16 schools (established clubs around Jimma city and surrounding)
- Telegram channel is used to distribute the booklets, to teach and foster questions.



# TUIMP about eclipses made a success in Mexico

facebook



**Julieta Fierro**  
Instituto de Astronomía,  
UNAM, México  
**Grażyna Stasińska**  
Observatorio de Paris

**Natural Travel México**  
5 avr. · 🌐  
Téléchargements mobiles

Excelente recomendación para conocer más de los eclipses  
Elaborado por Julieta Fierro y Grażyna Stasińska  
Versión para imprimir y versión digital 📄📱

<https://www.tuimp.org/es/booklet/28>

X

Paramètres

← Poster

**Eclipses México**  
@EclipsesMexico

¡Eclipse de bolsillo! 📖🌑  
Checa este librito sobre los eclipses que hicieron Julieta Fierro y Grażyna Stasińska 📄  
Y lo mejor: ¡puedes hacerlo tú con una hoja de papel impresa! O leerlo en PDF si prefieres 😊  
Mira cómo acá 📱  
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# What you can do for the TUIMP project



- Propose TUIMP booklets to your children, families and friends
- Mention TUIMP on social media
- Use TUIMP booklets if participating in astronomical events
- Help translating
- Write a booklet

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