

MW-GAIA: BRINGING THE MILKY WAY TO SCHOOLS 2021

JUNE
2-4
2021

TOPICS COVERED

- The Milky Way as a Galaxy: the science and research background
- Dissemination of the GAIA science
- Bringing the research closer to the public
- Teaching the Milky Way in schools
- How to make teaching and science communication more inclusive

Deadline for abstract submission: 14 May 2021

Deadline for registrations: 1 June 2021



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Poster 12

ORGANIZERS



Vilnius
University

Carlos Viscasillas Vázquez

Institute of Theoretical Physics and Astronomy, Vilnius University, Lithuania

Teaching astronomy with Scratch

In recent years, programming languages for children have undergone a remarkable development. A notable example is Scratch, developed at MIT and which gathers millions of users around the world. In the present work we show the possibilities of using Scratch 3.0 to teach astronomy. Specifically, we present the AstroScratch project, a compilation of astronomical simulators in continuous development. AstroScratch consists of a package called ExACTOS, and two simulators of comets and exoplanets. These projects are an example of the high possibilities that this programming language offers, and its potential also in the context of the Milky Way.

Teaching Astronomy with

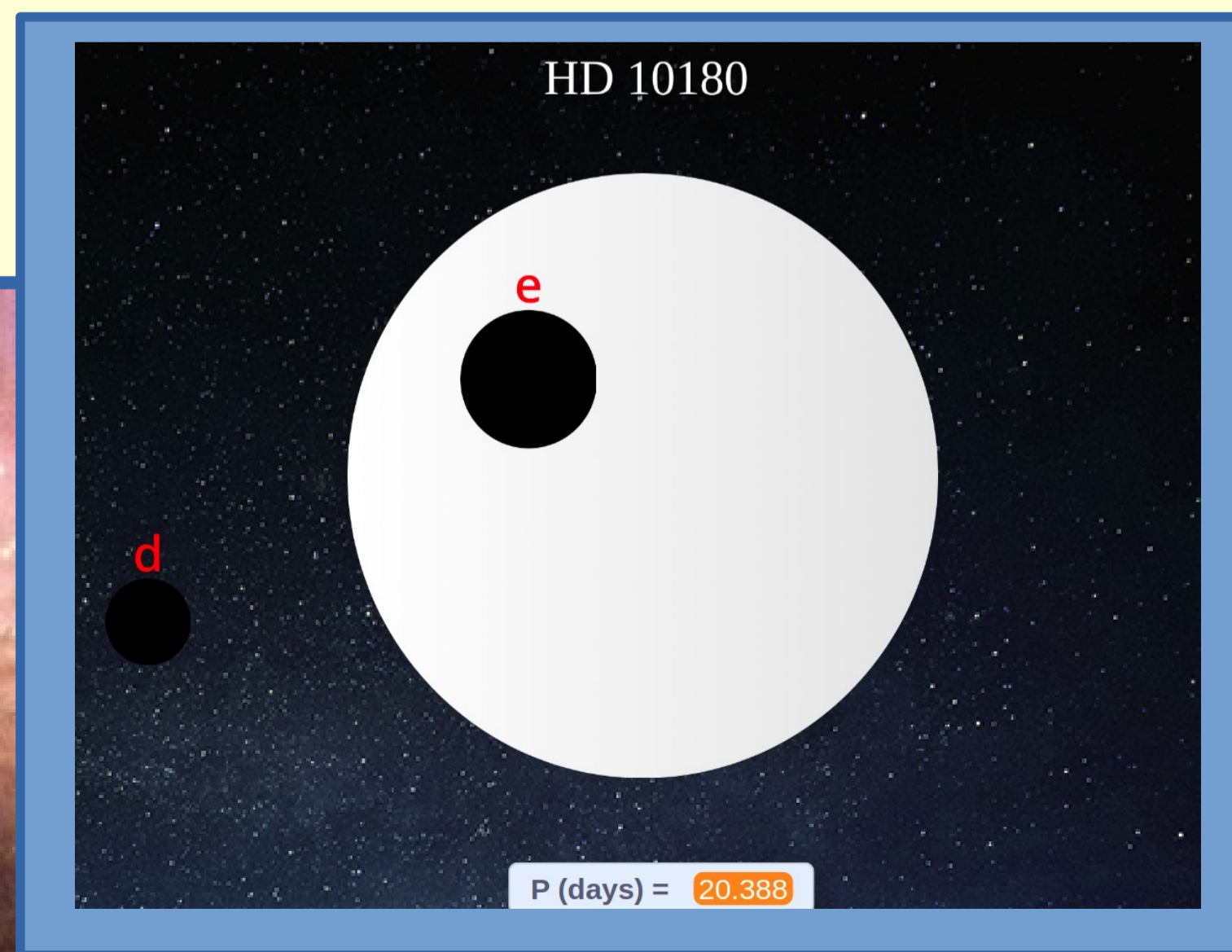
SCRATCH

Carlos Viscasillas Vazquez (Vilnius University)

We launch the Astro Scratch project, the first astronomical simulator platform developed with the Scratch 3.0 programming language for and by children. Scratch is a JavaScript-based programming language developed at MIT and accessed by a community of millions of users around the world.

The aim of AstroScratch is to unite in one place an ecosystem of astronomical packages created with Scratch and in continuous growth and improvement. Currently AstroScratch consists of three simulators: ExAcTOS v0.3, HD 10180 exoplanetary system simulator and the 67P comet simulator. AstroScratch is shown as an effective tool of extraordinary potential for use in the teaching of astronomy.

The author of Astro Scratch is Rytis (11 years old), a fifth grader at the Kaunas Pilėnai progymnasium in Lithuania. The aforementioned programs are accessible through the QR codes to the right of the poster:



A collage of simulator interfaces and QR codes. It includes: 1. 'EXACTOS v.0.3' interface with a planet and a QR code. 2. '67P SIMULATOR' interface with a comet and a 'Start' button. 3. 'HD 10180 SIMULATOR' interface with a star and planets. 4. A 'Start' button with a play icon. 5. A 'YEAR MONTH 2 year 2034' control panel. 6. A diagram showing orbital distances of 5.68 AU and 1.24 AU. 7. A 'PLANETS COMETS STARS' menu. 8. A 'SCRATCH' logo.