

WORKSHEET 4: Observation of a Total Solar Eclipse from Other Planets

Decide whether it is possible to observe a total solar eclipse from other planets in our solar system. Find the necessary data about the planets and their moons on the Internet. Recommended sources: <http://astronomia.zcu.cz> or <https://cs.wikipedia.org>.

Answer

First, consider whether there is any body that can completely cover the Sun. If so, decide on its angular size either by comparison with other bodies or by calculation. By comparing the angular size of the Sun when viewed from a given location, decide on the possibility of a total solar eclipse.

Mercury

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Mercury? YES × NO

Venus

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Venus? YES × NO

Mars

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Mars? YES × NO

Jupiter

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Jupiter? YES × NO

Saturn

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Saturn? YES × NO

Uranus

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Uranus? YES × NO

Neptune

List of bodies that can cover the Sun:

Angular size comparison (comparison / calculations):

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Can a total solar eclipse occur on Neptune? YES × NO