

XXII Международная астрономическая олимпиада
XXII International Astronomy Olympiad

Китай, Вэйхай 27.X. – 04.XI. 2017 Weihai, China

Язык
language **English**

Observational round. Questions
Clear sky

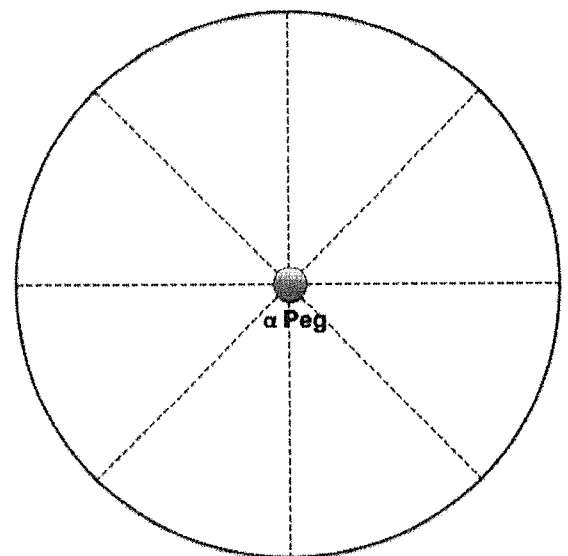
Code of participant код участника

You are provided with a headlight (with white & red lights).

7. The Moon. Determine (for the time of 1 minute after the beginning of your work at the round) and write down in the right boxes:

- 7.1. Astronomical azimuth of the Moon (assume the 0° azimuth corresponds to South direction, and the counting is clockwise).
- 7.2. The height of the Moon above the horizon.
- 7.3. Constellation(s) in which the Moon is located (write the standard three-letter designation).
- 7.4. The angular distance between the Moon and α Cas (Shedir).

9. α Peg (Markab). You are provided with a small telescope (80EQ). (Focal length of the telescope: $F = 900$ mm; focal length of the eyepiece: $f = 20$ mm, and apparent field of view: $aFoV \approx 40^\circ$). Target and center the telescope on a bright star Markab (α Peg), which magnitude is 2.5^m . Then observe for the second bright star, HIP 114031, in the field of view (FoV).



- 9.1. Right is the FoV of the telescope. Plot the position of HIP 114031 relative to α Peg, and mark the directions by Latin letters N, S, E, W (North, South, East and West respectively).
- 9.2. Estimate the angular distance between these two stars.
- 9.3. Estimate the magnitude of HIP114031.

The maximum total time for all tasks is **15 minutes**.