

????? ??????, ?? ????????? ?????? ??? ????? ????????? ?????? ??-????????
????????? ??????????????. ???? ?????????????????? ?????? ???? ?? ??????????
????????? ??-?? ?????? ?????? ?????????, ?? ?????? ??? ?????? ????.[\[13\]](#)

?????? ?????????? ?????? ????????? ??????: “?? ?????? ????????? ?????????
?? ??????????????”.[\[14\]](#)

??? ?????? ????????? “?? ?????? ????????? ??????? ?? ?????? ?????????????? ?? ?????? ??????
????????????????????? ??????” ?? ??????.[\[15\]](#)

????????? ??????? ????

[\[1\]](#) Islom va olam, 88 b

[\[2\]](#) Islom va olam, 89 b

[\[3\]](#) <https://islamdag.ru/lichnosti/45431>

Махач Гитиновасов, Ибн Аль-Хайсам – «отец современной оптики»

[\[4\]](#) E. Масуд (Masood, E.), Ислам и Наука (Science and Islam), 2006, Icon Books;

[\[5\]](#) Islom va olam, 86 b

[\[6\]](#) М. Морган (Morgan, M.), Потерянная история (Lost History), 2007.
Вашингтон: National Geographic Society;

[\[7\]](#) <https://historyofislam.com/ibn-al-haytham-alhazen-father-of-optics/>

Professor Ibrahim B. Syed , Ibn al-Haytham (Alhazen) – Father of Optics

[\[8\]](#) Islom va olam, 87 b

[\[9\]](#) Islom va olam, 91 b

[\[10\]](#) K.Ayram “Islom olamidagi ilm-fan mo’jizalari”, 200 b.

[11] Firas AlKhateeb, Lost Islamic History.

[12]

[https://www.photonics.com/Articles/Before Newton there was Alhazen/a36717](https://www.photonics.com/Articles/Before_Newton_there_was_Alhazen/a36717)

DAVID L. SHENKENBERG, Before Newton, there was Alhazen

[13] Firas AlKhateeb, Lost Islamic History.

[14] Islom va olam, 95 b

[15] <https://islam.plus/ru/civilizaciya/personalii/velikii-optik-alhazen>

Великий оптик Альхазен