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# Solar Spectral Lines («Solar Halo») – Healing or Harmful for The Retina?

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## ABSTRACT

*The sungazing method has been known for thousands of years as healing method based on chromotherapeutic principle. Our examinations on the island of Rab show that it is acceptable only if applied 10 min before the sunset. Gazing has to be directed towards the green-yellow part of the spectrum, since the remaining part of the sun halo contains harmful energy. However, authors suggest that it would be preferable to use spectacles with medical filters transmitting wavelength of green-yellow colour, especially for treatment of macular degeneration.*

**Key words:** *sungazing, solar halo, retina, macular degeneration*

## Introduction

Sungazing is the ancient method believed to cure all kinds of psychosomatic, mental and physical illnesses as well as increasing mental strenght by using sunlight. This old, but almost forgotten method was re-discovered by the Indian Hira Ratan Manek.

Several thousand years B.C., people knew that the sunlight is the origin of life and that is possible to heal the human body<sup>1,2</sup>. The eyes take the specific place in defining whether the sunlight will be harmful or healing. Today we known that solarlight with higher frequency UV-A, UV-B and blue light has serious harmful effect to the retina. The aim of this work is to find out which sun spectral lines of »solar halo« in the sunset have the wave lenght with the healing effect to the retina. During thousands of years people instinctly recognized that yellow-orange spectral lines protect and heal the eyes and the human body<sup>1</sup>.

It is very important to understand WHEN does the sun have this specific healing effect: in the morning or in the evening, especially for the eyes.

The sun healing is the process of sungazing at the rising or setting sun one time per day during the »safe hours« and sun healing believers say that is anytime within 1-hour window after sunrise or 1-hour window before sunset. Nowadays, some believe that this sungazing

could heal the macular degeneration. Whether this is possible or not is the subject of this study.

This study was initiated because of the increasing public interest for this method in general and especially because of numerous queries whether it could cure the eyes and macular degeneration in particular. It could be very harmful to look at the sun not to speak how harmful it could be to gaze at the sun. Since its deleterious effect to the eyes in general and especially in the genesis and progression of Age-Related Macular Degeneration (AMD) process is a very well known fact, our intention was to carry out an exact study of this phenomenon with the goal to prevent even worse damage to the retina while tempting to heal it.

## Patients and Methods

The measurement of the solar radiation of the UV-A, UV-B and other values were performed with professional equipment »Solar Light« (Figure 1), PMA2101 – biologically weighted UV-B detector and PMA2110-UV-A detector<sup>3-6</sup>, photometer, digital humidiguide and temperature apparatus in the period from July to September 2009. Our special attention was paid to the measurement of sun radiation activity early in the morning and in the



Fig. 1. Measurement of the solar radiation with professional equipment.

evening in order to answer whether the exposure of the eyes to the sun radiation has healing or harmful effect to the human retina.

### Results

The result of the measurement of solar ultraviolet radiation carried out on August 15<sup>th</sup> 2009 on the Island of Rab is shown on Figure 2. Full curve of UV-A sun radiation represents wavelength spectral response in the 320–400 nm and the broken curve UV-B in wavelength spectral response in the 280–320 nm, measured between 6.00 a.m. to 8.00 p.m. It is obvious that UV-A sun radiation appears earlier and disappears later than UV-B. It is also demonstrated in vertical line M (morning) and N (night) that UV-B of 0.8 uw/cm<sup>2</sup> in the morning is associated with 3,5 mw/cm<sup>2</sup>, whilst only 2.7 mw/cm<sup>2</sup> in the eve-

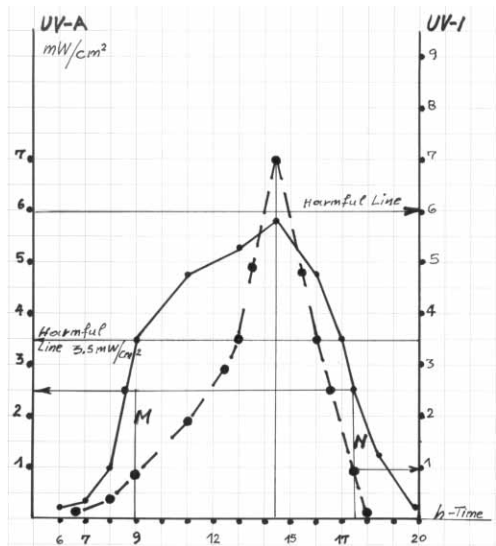


Fig. 2. Measurement curves of solar ultraviolet radiation measured on August 15<sup>th</sup> 2009 on the Island of Rab.

ning. As the consequence of this, sungazing in the morning is more harmful for the retina than in the evening.

Figure 3a shows a photography of »Solar Halo« 10 minutes before the sunset (the numbers from 2 to 4 in correlation with Chakra numbers). Bright solar halo radiation with the effect of »colour healing« is also visible. Figure 3b shows a sunrise at 6.30 a.m. with an indigo-blue solar-halo indicating low UV-A and UV-B sun radiation visible. Figure 3c shows sun radiation in 2.30 p.m. with high intensity solar radiation – »solar halo« (5.60 mw/cm<sup>2</sup>-UV-A, and 7 UVI – UV-B), over than normal values.

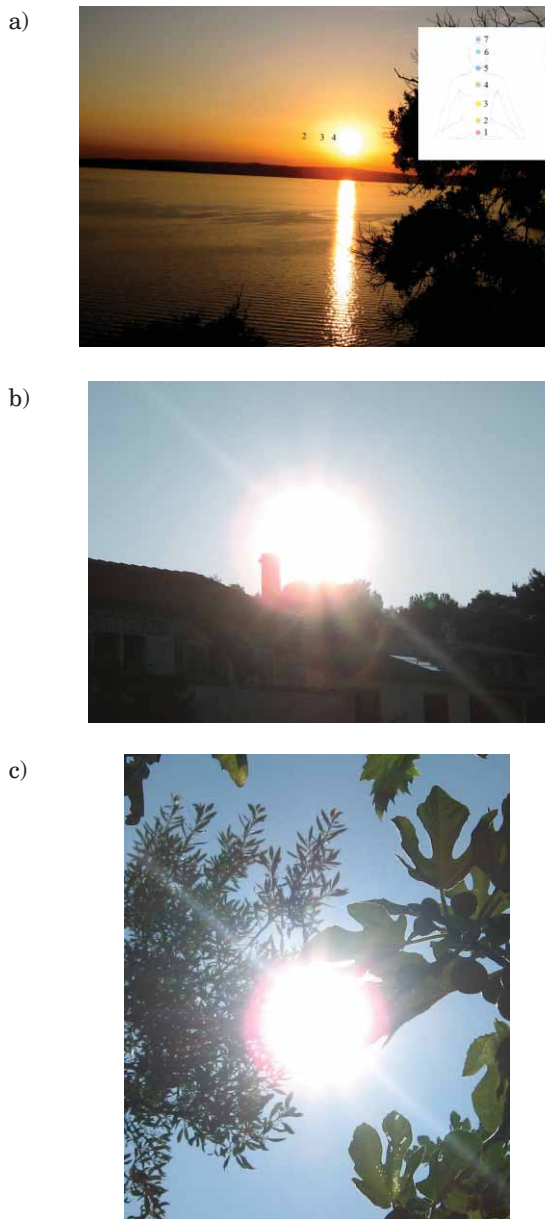


Fig. 3. a) Photography of »Solar Halo« 10 minutes before the sunset b) sunrise at 6.30 a.m. with an indigo-blue solar-halo c) sun radiation in 2.30 p.m. with high intensity solar radiation – »solar halo«.

## Discussion and Conclusion

It is well known that UV-A is less biologically effective i.e. less harmful than UV-B and therefore longer exposure can be tolerated<sup>7-9</sup>. It is very important conclusive evidence that subliminal dose of UV-B radiation has biological harmful effect when simultaneously irradiated with UV-A (approximately 2.5 mW) because of cumulative effect. Our earlier examinations<sup>1,10</sup> prove that separately spectral lines can heal and prevent the development of AMD, especially in wavelengths of green-yellow spectral response. This medical methods is known as chromotherapy<sup>11</sup> and has its application in ophthalmology, dermatology and in modern psychiatric treatment. However, apart from the influence of sunlight radiation (optical radiation) on the human body from outside, its cardinal effect acts through the eyes, conducting the col-

our light to the central nervous system (CNS), more precisely to suprachiasmatic nucleus (SCN). In SCN exist selective structures sensitive to spectral lines energy which are associated with vegetative system and specific organs. This is the principle that explains chakra points and acupuncture meridians and points.

In the end, it can be concluded that sungazing can be practiced for colour healing 10 minutes before sunset only. It is very important to emphasize that when speaking of sunset, we mean horizon, i.e. at altitude of zero degrees (it is obvious that gazing at sunset behind the hill is as more harmful as higher the hill is).

However, our recommendation is that spectacles with medical filters in green-yellow transmission are much better for colour healing of the AMD and without risk.

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## SUNČANI SPEKTAR (»SOLAR HALO«) – LIJEČI ILI OŠTEĆUJE RETINU

### SAŽETAK

Od davnine postoji uvjerenje da sunčeva svjetlost, korona, pri izlasku i zalasku ima efekt liječenja tijela i očiju. Uzeli smo si u zadatak da pomoću spektrofotometra za takova mjerenja, izmjerimo kakvoću radijacije sunčeve korone. Mjerenja su pokazala da se ne preporučuje gledati »zuriti« u sunčevu koronu pri izlasku, jer svjetlosni spektar sadrži štetne doze UV za retinu. Ako se već želi, tada se preporučuje samo u vremenu od zadnjih 5–10 minuta zalaska, gledajući samo u perifernu zonu korone, gdje se nalazi zeleno-žuto područje spektra, bez UV zraka. U zaključku, autori smatraju da je korisnije i sigurnije koristiti medicinski filter u naočalima, posebice zeleno-žuto obojenje, osobito za liječenje makularne degeneracije s obzirom da je to dokazano.