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Observations for Lateral Light at a Hole Adjacent To Lines of Different Colours Comparison with the Eye in Terms of Iris and Blue Make Up Analysis of Monochromatic Light

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ABSTRACT

A photo with a flash, of lines with different colors at a hole, was analyzed. The depict/shadow in the hole is probably constrained by the patterns and the shape, such that it agrees with the format of a J-space. It appeared that blue was different from the more bright colors. Blue has shorter wavelength, and when not too close to the hole, it is not absorbed, but enters and reveals the edge of the hole in more detail. Therefore, it is possible that blue eye make-up may improve the sight. Depending on the biochemistry inside the eye, the blue eye may be somewhat superior, or sensitive to blue colors. In terms of the π/2-projection, emittance of blue light in conjunction with additional wind south-north, were discussed. The colour of Venus was related to the π/2-projection, and the orientation and relative rotation to the Earth.

Key words: Lateral light, Tti, J-space, $v_{\pi/2}$-projection, blue eye, blue make-up, south wind and Pole star.

ABBREVIATIONS: Tti: Tove time invariant, π/2-projection; velocity perpendicular to a curved path.

INTRODUCTION

The concepts of the noncircular orbit Strömberg (2014) appear to have many applications, for systems at different scales. From acoustic and light phenomena, certain ratios, also present among the planets for example, Correia and Laskar (2004) could be derived Strömberg (2015). Since related to harmonic solutions, the framework in Strömberg (2008) could be exploited and connected to memory described mathematically. Other achievements could be to obtain tidal condition or other oscillation environment at space craft's Wiesel (2010). Here, a time invariant will be derived and applied to the formations of images and shadows by light. A differentiation of the time invariant is done to obtain a smaller space, within an eccentricity zone. This will be denoted the J-space. A formula for velocity perpendicular to lateral light is derived, and denoted $v(\alpha)_{\pi/2}$ projection, or π/2-projection.

The models derived from noncircular orbits will be applied to photo of a curved surface with a hole and colours, subjected to illumination by lateral light from a flash. A special behavior for blue, is notified, and depicts also called shadows, are observed. The images are ruled by the nature of light for the geometry and short time flash. Therefore the experiments are valuable, and reveal certain phenomena. In terms of the π/2-projection, emittance of blue light in conjunction with additional wind south-north, is discussed. The colour of Venus is related to the π/2-projection and the orientation and relative rotation to the Earth.

INVARIANT IN ECCENTRICITY ZONE

Consider the radius r $r=r_0+r_e\sin(f\omega_0 t)$ of a noncircular orbit from Strömberg (2014). For a function of (r, $f\omega_0 t$), a scalar invariant will be derived, and denoted the Tove time invariant, Tti. *Theorem.* Tti.

$(r-r_0)^2(f\omega_0 t) + (r-r_0)^2(f\omega_0 t+\pi/2)= r_e^2$ and $(r-r_0)^2(f\omega_0 t)+(r-r_0)^2(f\omega_0 t-\pi/2)= r_e^2$

With notation $(r-r_0)(f\omega_0 t+\pi/2)=\Delta r_{\pi/2}$ and $(r-r_0)(f\omega_0 t-\pi/2)=\Delta r_{-\pi/2}$

Figure 1. Left: pattern of colours and depict/shadow inside holes. Right Holes at locations, whith different colours.

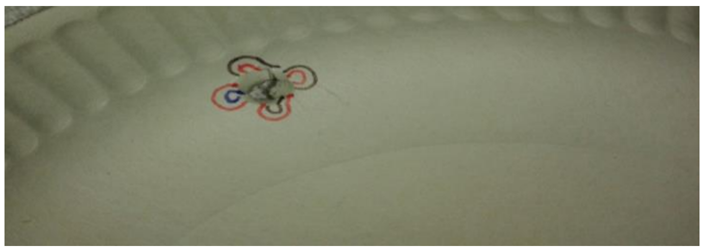

Figure 2. Photo of hole at figure 1, from a different angle.

Insertion of the expression for $r(f\omega_0 t)$ at time-point t gives the formats $(\Delta r_{\pi/2})^2/r_e^2 = 1 - \sin^2(f\omega_0 t)$ and $(\Delta r_{-\pi/2})^2/r_e^2 = 1 - \sin^2(f\omega_0 t)$ (1)

Proof. Insertion of r and evaluation of the trigonometric function.
Remark 1. Wit $\phi=f\omega_0 t$ and assuming f constant, the invariant can be expressed in the spatial variable.
Remark 2. It is convenient to keep the notation with both - and +, such that there is a dependency of points forward in time and backward in time, compared with the present time.

J-SPACE: SPACE-TIME DESCRIBED WITH INCREMENTS

A differentiation of (1) gives $2\Delta r_{\pi/2} dr_{\pi/2} = -r_e^2 f(d\phi)\sin(2f\phi)$ (2)

Where $dr_{\pi/2}$, and $d\phi$ are differentials/increments. Let the increments ($dr_{\pi/2}$, $d\phi$,dt), define a space-time, where $d\phi$, dt are at the present time, in the eccentricity zone c.f. Strömberg (2015). This, and the relation (2), as a constraint, will subsequently be denoted J-space. The space provides a relation between dimensions, a memory in terms of a complex but finite structure of space which could be regarded as a distributed presence. Such spaces may connect from gitter vibrations of atoms, substructures by light as rainbows, into reflexion and in whirls and eddies. To describe other phenomena in nature and engineering, a functional dependency on the variables may be assumed in terms of constitutive equations. This implies a dependency of past or future time, however that is also a result from the Tti. A small area measure in the space becomes complex, and can be minimized at certain angles, and become infinite at other angles. Assuming $d\phi= d\omega+ dt$ with $d\omega=\alpha dt+\beta dr$, gives a format with a velocity, similar to $v_{\pi/2}$ projection, but assuming that ω may vary proportional to t and r. Here we shall restrict to $\beta=0$.
Theorem: $v(\alpha)_{\pi/2}$ projection. The perpendicular velocity, at times $t=t_0+\pi/2/(f\omega)$ and $t=t_0-\pi/2/(f\omega)$, assuming that $dt=dt_{\pi/2}$, such that the time differential has the same value at + and -($\pi/2$), is given by

$$v(\alpha)_{\pi/2} =-(1+\alpha t)(1/2)r_e^2/\Delta r_{\pi/2}\, f\omega \sin(2f\phi) \quad (3)$$

Proof. Insertion in (2) and evaluation. *Remark.* This velocity, or a corresponding acceleration, is possibly the propulsion that fishes use, when swimming up a fall. Other results for swimmers in fluid structure interaction are modelled in Van Rees et al. (2013).

PHOTO WITH FLASH AT A HOLE ADJACENT TO DIFFERENT COLORS

A pattern of colours at a bend and with a hole was picturized with a flash. The photos are seen in Figures 1 to 4, and will be described for a luminisation, tacitly assuming lateral light with a noncircular path.

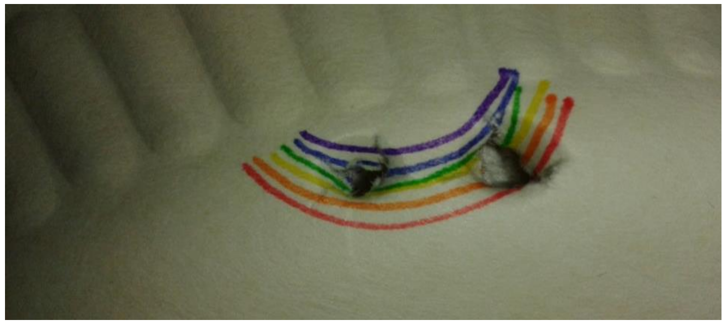

Figure 3. Photo of holes at figure 1, from a different angle.

Figure 4. Hole and black pattern, outside.

RUSULTS

When blue colour is present, but not absorbed, as in Figure 3, right hole, smaller parts at the edge of paper are imaged, since blue has a smaller wavelength. Blue at the side is probably needed to collect and prismaticaly divide the light. Figure 3, left hole: When the hole is at the blue lines, the shadow is larger and appears earlier at the sides of the hole. This is probably because blue is absorbed and do not reach as deep in the hole, as for the right hole. In conclusion: The photos show that there is a (shadow-) pattern mapped in the hole. This pattern is large except for the leftmost hole. It appears that blue into the hole resolves the edge of the bent paper in more details. Safety analysis for blue light. As it appears, blue penetrates deeper in the hole. Therefore, direct expose of the new blue monochromatic lights, may be harmful to the eye.

APPLICATION OF Vπ/2 –PROJECTION, IN WIND DIRECTION

Although, wind and waves are the result of complex fluid and thermal interaction, here we shall discuss some features in a simplified manner, and directly related to light.
The path for blue in a prisme, Figure 5, indicates that it may switch curvature, and we assume that blue is directly connected to wind and waves. Observations at Laholm bay, 18-19 August, 2015. Usually at end of summer, wind is from East, but this year it was SSE, stronger and not so hot. This could be related to a $\pi/2$--projection, out from earth, creating a path along the surface. Such weather could be caused by additional monochromatic blue light, as used nowadays. The water in the bay was very low, which may be explained with a noncircular path of the bay and a $\pi/2$-velocity outwards, as for a smaller local tide, but in plane.

VENUS

Venus is observed after sunset in East, quite close to the horizon and very bright, white-yellow sparkling. (15 August 2015, 23-00). The visibility is possibly mostly from direct reflexion, similar from the moon. Venus has (1:-1) coupling orbital sidereal rotation, so it rotates the opposite direction, compared with the other planets. Therefore it faces the Earth, relatively long time, and with opposite velocities, and this may contribute to the brightness obtained from $\pi/2$-–projection. At the same time at North, close to the Pole star, a similar object was observed, which is about pi/2, from Venus.

POLE STAR

The Sun light may take a noncircular path after passing

Figure 5. Paths for monochromatic light in a prisme are somewhat curved, which may be described with a noncircular orbit .

Figure 6. Very low stars in the movie Tangled.

the Earth. If relating the path to the shape of the Earth, a noncircular orbit is obtained since the Earth is larger at the equator. After approximately $\pi/2$, if there is magnetic field/matter where light can appear, the conditions for J-space is valid, such that an outward velocity $v_{\pi/2}$, gives an image. The velocity at the previous location, when hitting the arc to follow, the Earth was a shadow, which correspond to a velocity in other direction. This agrees with an orbit of a tide, where f=2, and then the location for the Pole star is immediate, since it is $\pi/2$, from the equator. By that the angle of the Earth axis, to the solar plane will not influence. Close stars and light phenomena are picturized in Figure 6.

CONCLUSION

Photo with flash of a curved geometry with a hole and colors was analyzed. It was discussed how the image and depict depend on colors. The blue light differs from the other colors, such that the shadow was deeper and more distinct. Hereby, possibly, blue eye make-up can improve eyesight, Figure 7. When close to the eye, blue is absorbed instead of collected and do not reach pupil. The blue eye may be superior, since blue is faster and gives mores sharp images, but this depends also on the biochemistry inside the eye. Wind south to north at earth may be assumed following a noncircular path, due to earth shape, and then the Coriolis force is absent since parallell with rotational axis. Instead, such paths may be strongly governed by the Tti, such that results from above are applicable. Therefore, emittance of blue light with a $\pi/2$-projection, could cause additional wind, south-north, or north south direction, and waves if close to water. Additional analysis and research could reveal if this can be used to stabilize weather at locations where large

Figure 7. Blue eye make-up.

whirlwinds, for example, close to equator. The Pole star is observed at almost constant location, at the North Pole. It is possible that for times this is an image of the Earth with a $\pi/2$-projection from light of the sun. Venus was discussed, in terms of the $\pi/2$-projection.

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