

## DARK SKIES for April 2008:

T/W Apr.	1/2	9:05 p.m.	-	4:54 a.m.
W/T Apr.	2/3	9:07 p.m.	-	4:59 a.m.
T/F Apr.	3/4	9:08 p.m.	-	4:57 a.m.
F/S Apr.	4/5	9:10 p.m.	-	4:55 a.m.
S/S Apr.	5/6	9:11 p.m.	-	4:52 a.m.
S/M Apr.	6/7	9:13 p.m.	-	4:50 a.m.
M/T Apr.	7/8	10:07 p.m.	-	4:48 a.m.
T/W Apr.	8/9	11:29 p.m.	-	4:46 a.m.
W/T Apr.	9/10	12:44 a.m.	-	4:44 a.m.
T/F Apr.	10/11	1:47 a.m.	-	4:42 a.m.
F/S Apr.	11/12	2:37 a.m.	-	4:40 a.m.
S/S Apr.	12/13	3:16 a.m.	-	4:38 a.m.
S/M Apr.	13/14	3:46 a.m.	-	4:36 a.m.
M/T Apr.	14/15	4:10 a.m.	-	4:34 a.m.
T/W Apr.	15/16	4:31 a.m.	-	4:32 a.m.
W/T Apr.	16/17	none		
T/F Apr.	17/18	none		
F/S Apr.	18/19	none		
S/S Apr.	19/20	none		
S/M Apr.	20/21	none		
M/T Apr.	21/22	9:37 p.m.	-	9:39 p.m.
T/W Apr.	22/23	9:38 p.m.	-	10:42 p.m.
W/T Apr.	23/24	9:40 p.m.	-	11:41 p.m.
T/F Apr.	24/25	9:42 p.m.	-	12:34 a.m.
F/S Apr.	25/26	9:43 p.m.	-	1:19 a.m.
S/S Apr.	26/27	9:45 p.m.	-	1:57 a.m.
S/M Apr.	27/28	9:47 p.m.	-	2:28 a.m.
M/T Apr.	28/29	9:48 p.m.	-	2:54 a.m.
T/W Apr.	29/30	9:50 p.m.	-	3:17 a.m.
W/T Apr.	30/1	9:52 p.m.	-	3:39 a.m.

Times listed are for Dodgeville, Wisconsin when

- (1) Moon is below the horizon
- (2) Sun is > 18° below the horizon  
(astronomical twilight)

[Contributed by David Oesper]

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## Time Travel

conducted by David Oesper

Most frequently the paths described by shooting stars have the appearance of straight lines. The luminous trains left in the heavens by their rapid movement, enable us easily to verify this fact. But there are exceptions, and stars of this kind have been seen to describe, before disappearing, strangely curved paths.

Their brilliancy is also very variable : some have surpassed in apparent size the most brilliant fixed stars, and even Venus and Jupiter. The colour likewise varies.

On observing a given number of shooting stars, it has been found that about two-thirds

are white ; while yellow, reddish yellow, and green characterise the remainder.

We now come to a fact of great importance, which has thrown much light on the origin of these meteoric showers, and revealed their cosmical nature. In observing the direction of the trajectories on the celestial vault, it has been noticed that the greatest number of those observed at any one time are emitted from the same part of the heavens, called the *radiant point*, because from it they radiate in all directions.

We must infer from these facts, that shooting stars are luminous bodies, the movement of which is independent of the rotation of the Earth, and that they are external to our atmosphere. This conclusion is singularly corroborated by this other fact, that the radiant points in the Lion and Perseus are precisely those towards which our globe is travelling, in its annual movement round the Sun, at the two epochs of November and August.

Astronomers have therefore concluded, that the appearance of shooting stars is caused by the Earth's passage through rings composed of myriads of these bodies circulating, like the larger planets, round the Sun, and the parallel movements of which seen from the Earth seem to radiate towards that part of the heavens approached by our Earth.

At first it was a question, whether there existed one ring, the various regions of which, sometimes richer, sometimes poorer in cosmical matter, could give rise to the varying phenomena observed. Or whether we should admit the existence of many separate rings, successively traversed by the Earth.

[It has now been demonstrated that meteors belong to systems of bodies, travelling in orbits of all degrees of excentricity around the Sun ; and further, that the Earth encounters more than a hundred such systems in the course of her annual revolution.—R. A. P.]

*Today, we know that meteors are the orbiting debris shed by comets.*

*The Heavens: An Illustrated Handbook of Popular Astronomy* (1872) by Amedée Guillemin (1826-1893)  
Edited by J. Norman Lockyer (1836-1920)  
4th Edition revised by Richard Proctor (1837-1888)