

Comet Wirtanen

by David Nakamoto

Nov 22nd, 2018

Comet Wirtanen, periodic comet 46P, will have a once in a lifetime passage close to earth in December of 2018. This is due to two events, a few days apart, that will make the comet brighter than it usually is.

December 12th -- Wirtanen will be closest to the Sun, perihelion. It will be as bright as it can get, if it follows its behavior during past perihelion passages.

December 16th -- Wirtanen will be closest to the earth, only 11.5 million km or 7.1 million miles away. This will also contribute to making it as bright as it can get, for observers on earth anyways.

This coincidence of a perihelion passage followed by a close approach mimics Mars' opposition in July of this year. Now when Mars did this, a global dust storm conspired to make Mars' globe a bland featureless disk. However, we want Wirtanen to produce lots of dust and gas, which will make it reflect more sunlight, so the comet will become bright. Some estimates predict Wirtanen might reach magnitude 4. But comets are notoriously unpredictable, so it might become even brighter, or it might even fade. Since no one knows which way it goes, this is not a comet to miss. No other comet is predicted to be brighter than 8th mag in 2019.

Since no one knows what will happen, I urge observers to look frequently and often as the comet goes from the southern skies to the north. It actually becomes visible all night as it passes by the earth. Remember, nothing in the sky waits for anyone. Small scopes, binoculars, anything that is easy to use at a moment's notice is better than nothing, so make the most of every chance you can get.

Below is a star chart showing the path of the comet. Notice that at perihelion Dec 12th and closest approach on the 16th, the comet is fairly high in the sky just west of Taurus the Bull. Late December and early January it passes Lynx and heads towards Ursa Major, going circumpolar in the process and so appearing all night.

2018	Dec	01	24 days	02 ^h 25 ^m 08 ^s	-20°16'38"	16:29	21:34	02:43	6.0	Cetus
2018	Dec	03	25 days	02 ^h 28 ^m 16 ^s	-18°42'51"	16:23	21:33	02:47	5.9	Cetus
2018	Dec	04	26 days	02 ^h 31 ^m 39 ^s	-16°59'45"	16:17	21:32	02:51	5.8	Cetus
2018	Dec	05	27 days	02 ^h 35 ^m 19 ^s	-15°06'24"	16:11	21:32	02:57	5.7	Cetus
2018	Dec	06	28 days	02 ^h 39 ^m 18 ^s	-13°01'53"	16:05	21:32	03:03	5.6	Cetus
2018	Dec	07	29 days	02 ^h 43 ^m 38 ^s	-10°45'15"	15:59	21:32	03:10	5.5	Cetus
2018	Dec	08	00 days	02 ^h 48 ^m 19 ^s	-08°15'40"	15:53	21:33	03:17	5.4	Eridanus
2018	Dec	09	01 days	02 ^h 53 ^m 24 ^s	-05°32'23"	15:47	21:34	03:26	5.3	Eridanus
2018	Dec	10	02 days	02 ^h 58 ^m 55 ^s	-02°34'54"	15:40	21:36	03:35	5.2	Eridanus
2018	Dec	11	03 days	03 ^h 04 ^m 53 ^s	+00°37'01"	15:33	21:38	03:46	5.1	Cetus
2018	Dec	12	04 days	03 ^h 11 ^m 22 ^s	+04°02'59"	15:27	21:40	03:58	5.0	Cetus
2018	Dec	13	05 days	03 ^h 18 ^m 23 ^s	+07°42'03"	15:20	21:43	04:11	4.9	Cetus
2018	Dec	14	06 days	03 ^h 25 ^m 58 ^s	+11°32'31"	15:12	21:47	04:26	4.9	Taurus
2018	Dec	15	06 days	03 ^h 34 ^m 10 ^s	+15°31'52"	15:05	21:51	04:42	4.8	Taurus
2018	Dec	16	07 days	03 ^h 43 ^m 01 ^s	+19°36'45"	14:57	21:56	04:59	4.8	Taurus
2018	Dec	17	08 days	03 ^h 52 ^m 31 ^s	+23°43'22"	14:49	22:02	05:18	4.8	Taurus
2018	Dec	18	09 days	04 ^h 02 ^m 44 ^s	+27°47'22"	14:41	22:08	05:39	4.8	Taurus
2018	Dec	19	10 days	04 ^h 13 ^m 38 ^s	+31°44'37"	14:32	22:15	06:02	4.8	Perseus
2018	Dec	20	11 days	04 ^h 25 ^m 13 ^s	+35°31'05"	14:23	22:23	06:26	4.9	Perseus
2018	Dec	21	12 days	04 ^h 37 ^m 29 ^s	+39°03'39"	14:13	22:31	06:53	4.9	Perseus
2018	Dec	22	13 days	04 ^h 50 ^m 21 ^s	+42°19'47"	14:02	22:40	07:21	5.0	Auriga
2018	Dec	23	15 days	05 ^h 03 ^m 47 ^s	+45°17'53"	13:51	22:49	07:52	5.1	Auriga
2018	Dec	24	16 days	05 ^h 17 ^m 41 ^s	+47°57'13"	13:38	22:59	08:24	5.2	Auriga
2018	Dec	25	17 days	05 ^h 31 ^m 54 ^s	+50°17'47"	13:23	23:09	09:00	5.3	Auriga
2018	Dec	26	18 days	05 ^h 46 ^m 20 ^s	+52°20'06"	13:04	23:20	09:39	5.4	Auriga

2018	Dec	27	20 days	06 ^h 15 ^m 14 ^s	+55°34'09"	Circumpolar	5.6	Auriga
2018	Dec	29	21 days	06 ^h 29 ^m 24 ^s	+56°48'36"	Circumpolar	5.8	Lynx
2018	Dec	30	22 days	06 ^h 43 ^m 12 ^s	+57°49'59"	Circumpolar	5.9	Lynx
2018	Dec	31	23 days	06 ^h 56 ^m 29 ^s	+58°39'49"	Circumpolar	6.0	Lynx
2019	Jan	01	24 days	07 ^h 09 ^m 13 ^s	+59°19'34"	Circumpolar	6.1	Lynx
2019	Jan	02	25 days	07 ^h 21 ^m 16 ^s	+59°50'33"	Circumpolar	6.2	Lynx
2019	Jan	03	26 days	07 ^h 32 ^m 38 ^s	+60°14'01"	Circumpolar	6.4	Camelopardalis
2019	Jan	04	27 days	07 ^h 43 ^m 17 ^s	+60°31'05"	Circumpolar	6.5	Camelopardalis
2019	Jan	05	28 days	07 ^h 53 ^m 12 ^s	+60°42'44"	Circumpolar	6.6	Camelopardalis
2019	Jan	06	29 days	08 ^h 02 ^m 23 ^s	+60°49'47"	Circumpolar	6.7	Camelopardalis
2019	Jan	07	00 days	08 ^h 10 ^m 53 ^s	+60°52'58"	Circumpolar	6.8	Ursa Major
2019	Jan	08	01 days	08 ^h 18 ^m 43 ^s	+60°52'56"	Circumpolar	6.9	Ursa Major
2019	Jan	09	02 days	08 ^h 25 ^m 55 ^s	+60°50'09"	Circumpolar	7.0	Ursa Major
2019	Jan	10	03 days	08 ^h 32 ^m 31 ^s	+60°45'06"	Circumpolar	7.1	Ursa Major
2019	Jan	11	04 days	08 ^h 38 ^m 33 ^s	+60°38'08"	Circumpolar	7.3	Ursa Major
2019	Jan	12	05 days	08 ^h 44 ^m 05 ^s	+60°29'33"	Circumpolar	7.4	Ursa Major
2019	Jan	13	06 days	08 ^h 49 ^m 08 ^s	+60°19'36"	Circumpolar	7.5	Ursa Major
2019	Jan	14	07 days	08 ^h 53 ^m 44 ^s	+60°08'31"	Circumpolar	7.6	Ursa Major
2019	Jan	15	08 days	08 ^h 57 ^m 56 ^s	+59°56'28"	Circumpolar	7.7	Ursa Major
2019	Jan	16	09 days	09 ^h 01 ^m 45 ^s	+59°43'35"	Circumpolar	7.8	Ursa Major
2019	Jan	17	10 days	09 ^h 05 ^m 14 ^s	+59°30'01"	Circumpolar	7.9	Ursa Major
2019	Jan	18	11 days	09 ^h 08 ^m 25 ^s	+59°15'49"	Circumpolar	8.0	Ursa Major
2019	Jan	19	12 days	09 ^h 11 ^m 18 ^s	+59°01'06"	Circumpolar	8.1	Ursa Major
2019	Jan	20	13 days	09 ^h 13 ^m 55 ^s	+58°45'56"	Circumpolar	8.2	Ursa Major
2019	Jan	21	14 days	09 ^h 16 ^m 17 ^s	+58°30'21"	Circumpolar	8.3	

2019	Jan	22	16 days	09 ^h 20 ^m 23 ^s	+57°58'10"	Circumpolar				8.5	Ursa Major
2019	Jan	24	17 days	09 ^h 22 ^m 09 ^s	+57°41'38"	Circumpolar				8.6	Ursa Major
2019	Jan	25	19 days	09 ^h 23 ^m 45 ^s	+57°24'48"	Circumpolar				8.7	Ursa Major
2019	Jan	26	20 days	09 ^h 25 ^m 11 ^s	+57°07'45"	Circumpolar				8.8	Ursa Major
2019	Jan	27	21 days	09 ^h 26 ^m 29 ^s	+56°50'27"	Circumpolar				8.9	Ursa Major
2019	Jan	28	22 days	09 ^h 27 ^m 40 ^s	+56°32'55"	Circumpolar				9.0	Ursa Major
2019	Jan	29	23 days	09 ^h 28 ^m 43 ^s	+56°15'11"	Circumpolar				9.0	Ursa Major
2019	Jan	30	24 days	09 ^h 29 ^m 40 ^s	+55°57'13"	Circumpolar				9.1	Ursa Major
2019	Jan	31	25 days	09 ^h 30 ^m 31 ^s	+55°39'04"	Circumpolar				9.2	Ursa Major
2019	Feb	01	26 days	09 ^h 31 ^m 17 ^s	+55°20'42"	Circumpolar				9.3	Ursa Major
2019	Feb	02	26 days	09 ^h 31 ^m 59 ^s	+55°02'10"	13:07	00:39	12:08		9.4	Ursa Major
2019	Feb	03	27 days	09 ^h 32 ^m 36 ^s	+54°43'26"	13:19	00:36	11:50		9.5	Ursa Major
2019	Feb	04	28 days	09 ^h 33 ^m 10 ^s	+54°24'32"	13:27	00:33	11:35		9.6	Ursa Major
2019	Feb	05	00 days	09 ^h 33 ^m 41 ^s	+54°05'27"	13:33	00:29	11:22		9.7	Ursa Major
2019	Feb	06	00 days	09 ^h 34 ^m 09 ^s	+53°46'12"	13:38	00:26	11:10		9.8	Ursa Major
2019	Feb	07	01 days	09 ^h 34 ^m 34 ^s	+53°26'48"	13:42	00:22	10:59		9.9	Ursa Major
2019	Feb	08	02 days	09 ^h 34 ^m 58 ^s	+53°07'15"	13:45	00:19	10:49	10.0	Ursa Major	
2019	Feb	09	03 days	09 ^h 35 ^m 20 ^s	+52°47'33"	13:48	00:15	10:39	10.1	Ursa Major	
2019	Feb	10	04 days	09 ^h 35 ^m 40 ^s	+52°27'44"	13:50	00:12	10:29	10.2	Ursa Major	
2019	Feb	11	05 days	09 ^h 36 ^m 00 ^s	+52°07'46"	13:52	00:08	10:20	10.2	Ursa Major	
2019	Feb	12	06 days	09 ^h 36 ^m 18 ^s	+51°47'42"	13:53	00:04	10:11	10.3	Ursa Major	
2019	Feb	13	07 days	09 ^h 36 ^m 35 ^s	+51°27'31"	13:55	23:57	10:03	10.4	Ursa Major	
2019	Feb	14	08 days	09 ^h 36 ^m 52 ^s	+51°07'14"	13:56	23:53	09:54	10.5	Ursa Major	
2019	Feb	15	09 days	09 ^h 37 ^m 09 ^s	+50°46'52"	13:57	23:50	09:46	10.6	Ursa Major	
2019	Feb	16	10 days	09 ^h 37 ^m 25 ^s	+50°26'25"	13:57	23:46	09:38	10.7	Ursa Major	