

Gegenseitige Bedeckungen und Verfinsterungen der Jupitermonde untereinander 2014/15

Liste aller Ereignisse, die von Freiburg aus sichtbar sind

berechnet mit Occult 4.1.3.1

Erläuterungen:

Year M D h m s: Jahr, Monat, Zeit (UTC!!!) des Ereignisses

Event: (I)=Io, (II)=Europa, (III)=Ganymed, (IV)=Kallisto

ecl=verfinstert, occ= bedeckt

Phänomen: P=partiell, A=ringförmig, E=nicht-zentral im Halbschatten, t=Mond im Transit vor der Jupiterscheibe

Duration: Gesamtdauer in Sekunden

dMag: Helligkeitsabfall in mag, bei Bedeckungen Abfall der gesamten Helligkeit des bedeckenden und des bedeckten Mondes,

bei Verfinsterungen Helligkeitsabfall des verfinsterten Mondes allein in mag

%Illumination: verbleibende Restintensität in %, bei Bedeckungen der Gesamtintensität des bedeckenden und des bedeckten Mondes,

bei Verfinsterungen verbleibende Restintensität des verfinsterten Mondes allein in %

Separation: Abstand des bedeckten/verfinsterten Mondes vom Jupiterscheibenmittelpunkt in Bogensekunden zur Mitte des Ereignisses

PA: Positionswinkel des bedeckten/verfinsterten Mondes vom Jupiterscheibenmittelpunkt in Grad im irdischen Äquatorialsystem

MinD: minimaler scheinbarer Abstand des bedeckenden Mondes vom bedeckten Mond in Bogensekunden bzw.

minimaler scheinbarer Abstand der Schattenachse des verfinsternden Mondes vom verfinsterten Mond in Bogensekunden

Zeiten (UTC!!!): Beginn, Mitte, Ende des Ereignisses; bei Verfinsterungen auch noch Beginn und Ende der Halbschattenphase

Year	M	D	h	m	s	Event Type	Ph	Dur	dMag	%Ill	Sep	PA	MinD	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s					
2014	9	29	3	0	47	(IV) ecl (II)	Pt	1483	0.4	66.5	2.1	181	0.724	2	48	26	2	58	16	3	0	47	3	3	18	3	13	9								
2014	10	21	2	2	36	(II) occ (III)	P	152	0.0	99.5	147.3	291	0.993				2	1	20	2	2	36			2	3	52									
2014	10	24	5	9	48	(II) occ (IV)	P	165	0.0	98.1	55.4	290	0.883				5	8	25	5	9	48			5	11	11									
2014	10	28	5	35	46	(II) occ (III)	P	469	0.2	85.1	154.9	291	0.577				5	31	51	5	35	46			5	39	40									
2014	10	31	3	25	19	(IV) ecl (III)	A	7347	0.8	47.7	254.5	111	0.069	2	24	5	2	43	42	3	13	28	3	25	19	3	37	10	4	6	56	4	26	33		
2014	11	9	2	57	47	(I) occ (II)	P	83	0.0	98.8	27.8	109	0.815				2	57	6	2	57	47			2	58	28									
2014	11	16	5	8	49	(I) occ (II)	P	157	0.1	89.7	23.5	109	0.611				5	7	30	5	8	49			5	10	8									
2014	11	19	3	5	35	(IV) occ (III)	P	423	0.2	85.5	76.2	291	0.802				3	2	3	3	5	35			3	9	6									
2014	11	23	3	26	31	(III) occ (II)	P	15	0.0	100.0	33.0	293	1.140				3	26	23	3	26	31			3	26	38									
2014	11	25	2	52	32	(III) ecl (IV)	P	5092	1.0	41.2	338.6	291	0.503	2	10	6	2	26	17			2	52	32			3	18	48	3	34	58				
2014	11	26	21	49	56	(II) ecl (IV)	A	2031	0.6	55.0	26.0	287	0.058	21	33	1	21	40	24	21	43	30	21	49	56	21	56	23	21	59	29	22	6	52		
2014	11	27	22	8	46	(II) occ (IV)	A	569	0.4	70.2	167.2	112	0.090				22	4	1	22	7	50	22	8	46	22	9	41	22	13	30					
2014	12	2	23	29	18	(II) occ (III)	P	418	0.0	97.8	188.2	291	1.035				23	25	49			23	29	18			23	32	47							
2014	12	6	22	15	12	(III) occ (I)	P	458	0.4	69.6	105.7	111	0.314				22	11	23			22	15	12			22	19	1							
2014	12	9	22	42	48	(II) ecl (III)	E	687	0.1	92.6	228.6	291	0.885	22	37	4				22	42	48									22	48	32			
2014	12	10	23	47	38	(I) occ (III)	P	264	0.2	82.9	22.1	112	0.668				23	45	26			23	47	38			23	49	50							
2014	12	12	23	43	5	(II) occ (I)	P	4165	0.3	77.2	71.3	291	0.427				23	8	22			23	43	5		f	0	17	47							
2014	12	12	22	39	26	(I) ecl (IV)	E	419	0.1	89.1	159.3	290	0.992	22	35	57				22	39	26									22	42	56			
2014	12	13	1	51	57	(II) occ (I)	P	4038	0.6	60.1	98.7	291	0.135				1	18	18			1	51	57			2	25	36							
2014	12	14	1	11	25	(III) occ (I)	P	526	0.3	72.7	115.9	111	0.411				1	7	2			1	11	25			1	15	48							
2014	12	14	21	30	7	(III) occ (I)	T	3173	0.4	67.7	110.2	291	0.112				21	3	40	21	25	51	21	30	7	21	34	23	21	56	34					
2014	12	17	2	32	10	(II) ecl (III)	P	953	0.3	76.6	232.0	291	0.564	2	24	13	2	27	25			2	32	10			2	36	54	2	40	6				
2014	12	18	5	57	16	(II) occ (III)	P	2767	0.3	79.4	51.2	112	0.515				5	34	13			5	57	16			6	20	20							
2014	12	19	22	27	22	(II) occ (I)	P	1058	0.1	95.4	21.1	292	0.811				22	18	33			22	27	22			22	36	11							
2014	12	20	5	41	53	(II) occ (I)	P	1180	0.5	61.3	117.7	291	0.160				5	32	3			5	41	53			5	51	43							
2014	12	21	4	17	22	(III) occ (I)	P	663	0.3	73.5	123.5	111	0.439				4	11	50			4	17	22			4	22	53							
2014	12	21	3	22	22	(IV) ecl (I)	A	1110	0.5	60.3	120.2	111	0.242	3	13	7	3	18	31	3	21	33	3	22	22	3	23	10	3	26	12	3	31	37		

2014	12	22	2	13	4	(III) occ (I)	P	837	0.3	72.5	124.8	291	0.412			2	6	6			2	13	4			2	20	3							
2014	12	22	5	24	24	(IV) ecl (I)	E	448	0.1	91.3	112.2	291	1.130	5	20	40						5	24	24						5	28	9			
2014	12	24	6	34	49	(II) ecl (III)	A	1228	0.5	62.7	232.9	291	0.250	6	24	35	6	27	38	6	31	40	6	34	49	6	37	58	6	42	0	6	45	3	
2014	12	25	23	6	4	(II) occ (III)	P	1236	0.2	83.0	196.1	111	0.626									22	55	46		23	6	4		23	16	21			
2014	12	27	5	42	53	(II) ecl (I)	E	1056	0.0	96.7	105.4	291	0.802	5	34	5								5	42	53					5	51	41		
2014	12	29	1	59	15	(III) ecl (I)	E	344	0.0	99.9	120.9	291	1.322	1	56	23								1	59	15					2	2	7		
2014	12	29	5	28	58	(III) occ (I)	P	565	0.2	79.5	124.6	291	0.611				5	24	16					5	28	58			5	33	41				
2014	12	29	5	58	48	(III) ecl (IV)	E	693	0.3	78.9	236.1	290	1.065	5	53	2								5	58	48					6	4	35		
2014	12	30	21	44	12	(II) occ (I)	P	714	0.4	72.1	126.7	291	0.355				21	38	15					21	44	12			21	50	9				
2014	12	30	19	30	43	(II) ecl (I)	P	858	0.1	92.6	114.9	291	0.735	19	23	34	19	27	39					19	30	43			19	33	48	19	37	52	
2015	1	2	2	58	5	(II) occ (III)	P	970	0.2	84.0	203.2	111	0.666				2	50	0					2	58	5			3	6	10				
2015	1	5	6	2	39	(III) ecl (I)	E	358	0.0	99.0	129.2	291	1.255	5	59	40								6	2	39					6	5	38		
2015	1	6	22	33	15	(II) ecl (I)	P	690	0.2	84.7	125.3	291	0.636	22	27	30	22	29	54					22	33	15			22	36	35	22	39	0	
2015	1	7	0	8	46	(II) occ (I)	P	584	0.3	75.7	129.7	291	0.427				0	3	54					0	8	46			0	13	39				
2015	1	8	3	46	38	(II) ecl (III)	P	3183	0.4	71.5	96.6	291	0.454	3	20	7	3	25	12					3	46	38			4	8	4	4	13	9	
2015	1	7	23	45	5	(IV) ecl (III)	E	478	0.0	97.0	141.7	291	1.554	23	41	6								23	45	5					23	49	3		
2015	1	9	6	29	18	(II) occ (III)	P	817	0.2	84.9	207.3	111	0.703				6	22	30					6	29	18			6	36	7				
2015	1	14	2	26	8	(II) occ (I)	P	507	0.3	77.3	131.2	291	0.462				2	21	54					2	26	8			2	30	21				
2015	1	14	1	17	16	(II) ecl (I)	P	608	0.3	76.7	130.5	291	0.550	1	12	12	1	14	3					1	17	16			1	20	29	1	22	20	
2015	1	19	2	33	52	(III) occ (II)	T	322	0.3	73.9	28.4	110	0.279				2	31	11	2	33	29		2	33	52	2	34	16	2	36	33			
2015	1	21	4	38	43	(II) occ (I)	P	458	0.3	77.0	131.7	290	0.460				4	34	53					4	38	43			4	42	32				
2015	1	21	3	52	28	(II) ecl (I)	P	556	0.4	67.9	132.7	290	0.465	3	47	50	3	49	24					3	52	28			3	55	32	3	57	6	
2015	1	24	5	50	7	(IV) ecl (I)	Pt	1057	0.8	48.3	4.7	103	0.569	5	41	19	5	46	40					5	50	7			5	53	34	5	58	55	
2015	1	24	17	43	57	(II) occ (I)	P	441	0.3	76.2	131.6	290	0.447				17	40	17					17	43	57			17	47	38				
2015	1	24	18	54	39	(IV) ecl (I)	A	788	0.4	71.2	126.0	290	0.119	18	48	5	18	51	57	18	53	29	18	54	39	18	55	49	18	57	21	19	1	13	
2015	1	25	4	37	50	(IV) ecl (II)	E	1062	0.1	87.9	210.1	291	0.989	4	28	59								4	37	50					4	46	41		
2015	1	26	5	15	47	(III) occ (II)	T	327	0.3	73.9	35.9	110	0.192				5	13	3	5	15	12		5	15	47	5	16	21	5	18	30			
2015	1	28	6	22	21	(II) ecl (I)	P	519	0.6	58.3	132.6	290	0.377	6	18	1	6	19	24					6	22	21			6	25	17	6	26	40	
2015	1	31	19	36	10	(II) ecl (I)	P	503	0.7	53.2	131.8	290	0.331	19	31	58	19	33	18					19	36	10			19	39	2	19	40	21	
2015	1	31	19	51	56	(II) occ (I)	P	417	0.3	73.4	130.7	290	0.397				19	48	27					19	51	56			19	55	24				
2015	1	31	21	4	6	(II) ecl (IV)	E	476	0.1	93.8	160.9	289	1.064	21	0	8								21	4	6					21	8	4		
2015	2	1	21	49	33	(I) ecl (IV)	E	500	0.4	66.4	68.4	112	0.585	21	45	23	21	49	18	21	48	45	21	49	33	21	50	21	21	49	49	21	53	43	
2015	2	2	1	39	16	(III) ecl (IV)	A	791	0.4	70.0	103.7	112	0.224	1	32	40	1	37	10	1	37	25		1	39	16	1	41	7	1	41	22	1	45	52
2015	2	2	3	31	23	(I) occ (II)	P	209	0.5	61.6	26.3	292	0.179				3	29	39					3	31	23			3	33	7				
2015	2	2	18	20	47	(III) ecl (I)	P	415	0.7	51.9	92.0	290	0.663	18	17	20	18	19	22					18	20	47			18	22	12	18	24	15	
2015	2	2	18	34	56	(III) occ (I)	P	310	0.2	83.1	88.6	290	0.745				18	32	21					18	34	56			18	37	31				
2015	2	5	19	2	21	(I) occ (III)	P	295	0.2	82.3	74.7	290	0.720				18	59	54					19	2	21			19	4	49				
2015	2	5	18	59	1	(I) ecl (III)	P	401	0.4	70.5	75.4	290	0.584	18	55	40	18	57	31					18	59	1			19	0	30	19	2	21	
2015	2	6	19	2	14	(II) occ (III)	P	414	0.1	94.9	206.9	110	1.049				18	58	46					19	2	14			19	5	41				
2015	2	7	21	58	8	(II) occ (I)	P	400	0.4	69.1	129.1	290	0.318				21	54	48					21	58	8			22	1	28				
2015	2	7	22	1	9	(II) ecl (I)	P	476	0.9	42.5	128.8	290	0.237	21	57	12	21	58	25					22	1	9			22	3	54	22	5	7	
2015	2	9	5	27	56	(I) occ (II)	P	202	0.4	70.4	30.6	291	0.341				5	26	16					5	27	56			5	29	37				
2015	2	9	5	33	13	(I) ecl (II)	E	95	0.0	99.7	29.2	291	1.046	5	32	25								5	33	13					5	34	0		
2015	2	9	20	58	51	(III) occ (I)	P	313	0.3	78.4	78.3	289	0.612				20	56	15					20	58	51			21	1	28				
2015	2	9	21	9	36	(III) ecl (I)	P	417	1.0	39.7	75.4	289	0.471	21	6	8	21	7	52					21	9	36			21	11	21	21	13	5	
2015	2	12	18	26	18	(I) occ (II)	P	195	0.3	75.0	32.7	291	0.428				18	24	41					18	26	18			18	27	56				
2015	2	12	18	39	10	(I) ecl (II)	E	131	0.0	98.7	29.4	291	0.978	18	38	4								18	39	10					18	40	16		
2015	2	12	21	25	51	(I) occ (III)	P	333	0.3	75.1	85.2	290	0.518				21	23	5					21	25	51			21	28	38				
2015	2	12	21	47	25	(I) ecl (III)	A	445	0.6	59.3	80.9	290	0.395	21	43	43	21	45	27	21	46	33	21	47	25	21	48	18	21	49	24	21	51	8	
2015	2	13	22	0	22	(II) occ (III)	P	277	0.0	98.3	203.5	110	1.194				21	58	3					22	0	22			22	2	40				

2015	2	15	0	3	15	(II) occ (I)	P	386	0.5	63.7	126.8	290	0.218			0	0	2			0	3	15			0	6	28							
2015	2	15	0	23	59	(II) ecl (I)	A	452	1.2	32.7	124.4	289	0.136		0	20	13		0	21	23		0	23	20		0	23	59						
2015	2	16	23	21	47	(III) occ (I)	P	317	0.3	72.6	67.3	289	0.443									23	21	47			23	24	26						
2015	2	16	23	56	8	(III) ecl (I)	P	415	0.6	57.9	57.4	289	0.269		23	52	40					23	54	15			23	56	8						
2015	2	19	20	23	27	(I) occ (II)	P	176	0.2	84.3	36.8	291	0.607									20	23	27			20	23	27						
2015	2	19	20	51	16	(I) ecl (II)	E	180	0.1	93.8	29.6	291	0.844		20	49	46					20	51	16					20	52	45				
2015	2	19	23	51	21	(I) occ (III)	P	369	0.4	68.4	94.9	289	0.303									23	51	21				23	54	25					
2015	2	20	0	39	1	(I) ecl (III)	A	492	0.7	50.9	85.5	289	0.224		0	34	55					0	36	38		0	37	44		0	39	1			
2015	2	22	2	7	58	(II) occ (I)	P	371	0.6	58.1	123.7	289	0.102									2	4	53			2	7	58		2	11	4		
2015	2	22	2	45	12	(II) ecl (I)	A	429	0.7	52.1	118.8	289	0.031		2	41	38					2	42	45		2	44	26		2	45	12			
2015	2	24	1	44	48	(III) occ (I)	T	318	0.4	67.7	55.8	289	0.251									1	42	9		1	44	43		1	44	48			
2015	2	24	2	41	17	(III) ecl (I)	A	409	0.3	78.7	38.6	289	0.061		2	37	53					2	39	24		2	41	4		2	41	17			
2015	2	26	20	28	3	(IV) occ (II)	P	242	0.1	92.8	69.1	290	0.912									20	26	2			20	28	3		20	30	4		
2015	2	26	22	21	26	(I) occ (II)	P	145	0.1	92.5	40.7	291	0.785									22	20	14			22	21	26		22	22	38		
2015	2	26	22	48	16	(IV) ecl (II)	E	514	0.5	65.8	33.9	291	0.564		22	43	59									22	48	16			22	52	33		
2015	2	26	23	3	37	(I) ecl (II)	E	213	0.2	84.5	29.9	291	0.712		23	1	50					23	3	37			23	3	37		23	5	24		
2015	2	26	23	46	5	(IV) ecl (I)	E	645	0.0	98.9	65.3	289	1.270		23	40	43									23	46	5			23	51	27		
2015	2	27	2	20	24	(I) occ (III)	A	404	0.4	67.7	103.7	289	0.088									2	17	2		2	19	49		2	20	24	2	23	46
2015	2	27	3	35	47	(I) ecl (III)	A	551	0.8	46.3	89.0	289	0.074		3	31	12					3	32	59		3	34	14		3	35	47	3	37	20
2015	2	27	4	33	11	(IV) ecl (III)	E	644	0.2	84.1	77.7	289	1.127		4	27	49					4	33	11			4	33	11		4	38	33		
2015	2	28	5	34	30	(II) ecl (III)	E	63	0.0	100.0	209.9	109	1.344		5	33	58					5	34	30			5	34	30		5	35	1		
2015	3	1	4	12	45	(II) occ (I)	A	354	0.6	57.5	120.1	289	0.023									4	9	48		4	12	32		4	12	45	4	15	42
2015	3	1	5	5	8	(II) ecl (I)	A	405	1.0	39.2	112.1	289	0.080		5	1	45					5	2	51		5	4	25		5	5	8	5	5	51
2015	3	2	18	45	38	(III) occ (II)	P	282	0.2	85.6	70.3	109	0.729									18	43	17			18	45	38		18	47	59		
2015	3	2	20	25	50	(III) ecl (II)	P	450	0.6	60.0	94.0	109	0.384		20	22	5					20	24	14			20	25	50		20	27	25		
2015	3	3	4	8	17	(III) occ (I)	T	314	0.4	67.7	43.8	289	0.051									4	5	40		4	7	49		4	8	17	4	8	45
2015	3	4	18	14	33	(II) ecl (I)	A	394	1.2	33.1	108.6	289	0.138		18	11	16					18	12	22		18	13	56		18	14	33	18	15	10
2015	3	6	0	20	33	(I) occ (II)	P	90	0.0	98.4	44.5	290	0.952									0	19	48			0	20	33		0	21	18		
2015	3	6	1	16	14	(I) ecl (II)	P	239	0.4	70.9	30.5	291	0.585		1	14	14					1	16	14			1	16	14		1	16	14		
2015	3	6	4	54	16	(I) occ (III)	A	440	0.4	67.7	111.5	289	0.113									4	50	36		4	53	40		4	54	16	4	54	52
2015	3	9	21	32	59	(III) occ (II)	P	244	0.1	91.8	76.6	108	0.905									21	30	57			21	32	59		21	35	1		
2015	3	9	23	39	25	(III) ecl (II)	A	472	0.2	82.9	105.3	109	0.084		23	35	29					23	37	30		23	39	19		23	39	25	23	39	32
2015	3	11	19	20	49	(II) occ (I)	P	323	0.5	63.6	113.7	289	0.209									19	18	8			19	20	49		19	23	31		
2015	3	11	20	33	3	(II) ecl (I)	P	369	0.9	44.6	101.1	289	0.257		20	29	59					20	31	6			20	33	3		20	35	0		
2015	3	13	3	29	7	(I) ecl (II)	P	259	0.7	54.9	31.3	291	0.461		3	26	58					3	28	9			3	29	7		3	30	5		
2015	3	13	23	30	4	(I) ecl (III)	A	1592	0.7	52.1	68.0	108	0.228		23	16	48					23	19	56		23	27	13		23	30	4	23	32	56
2015	3	16	1	38	54	(IV) occ (II)	P	612	0.3	72.8	192.7	289	0.357									1	33	48			1	38	54		1	44	0		
2015	3	17	0	22	57	(III) occ (II)	P	194	0.0	96.3	82.4	108	1.050									0	21	20			0	22	57		0	24	34		
2015	3	17	2	53	9	(III) ecl (II)	P	474	0.4	67.8	115.1	108	0.211		2	49	12					2	51	15			2	53	9		2	55	3		
2015	3	18	21	27	23	(II) occ (I)	P	300	0.4	70.4	108.9	289	0.323									21	24	53			21	27	23		21	29	53		
2015	3	18	22	50	46	(II) ecl (I)	P	341	0.6	58.1	93.3	289	0.380		22	47	55					22	49	6			22	50	46		22	52	25		
2015	3	21	1	57	5	(I) occ (III)	P	1506	0.2	82.2	54.9	108	0.676									1	44	32			1	57	5		2	9	39		
2015	3	23	18	49	2	(I) ecl (II)	P	281	1.1	35.7	33.2	291	0.284		18	46	41					18	47	44			18	49	2		18	50	19		
2015	3	24	0	14	42	(III) occ (IV)	P	499	0.4	72.0	121.5	109	0.523									0	10	32			0	14	42		0	18	52		
2015	3	24	3	16	17	(III) occ (II)	P	132	0.0	98.9	88.0	108	1.153									3	15	11			3	16	17		3	17	23		
2015	3	24	18	53	19	(II) ecl (IV)	E	1528	0.2	81.7	272.2	109	0.702		18	40	35									18	53	19				19	6	3	
2015	3	25	23	35	5	(II) occ (I)	P	275	0.3	76.5	103.8	288	0.423									23	32	47			23	35	5		23	37	22		
2015	3	26	1	7	50	(II) ecl (I)	P	310	0.4	71.6	85.4	288	0.508		1	5	15					1	6	34			1	7	50		1	9	5		
2015	3	28	19	6	54	(II) ecl (III)	P	521	0.3	77.9	194.2	108	0.612		19	2	34					19	5	14			19	6	54		19	8	35		
2015	3	30	21	2	40	(I) ecl (II)	P	293	0.8	48.4	34.9	291	0.172		21	0	14					21	1	15			21	2	40		21	4	5		

