System Brief: Neubayern

PHYSICAL DATA

Neubayern was the name applied to the Groombridge 1618 star system by Bavarian settlers. The system was first visited by a Bavarian probe in 2142, and colonized in 2169. The star lies 14.599 light years from Sol, but due to the distance limitations of stutterwarp drive, travel is 18.763 light years and requires three jumps. There are three neighbors accessible by stutterwarp travel: Augereau, Bessieres, and DM+53 1320.

The primary is a K7V star, with a radius of 0.552 Sol and a mass of 0.534 Sol. Its average luminosity is 0.064 Sol, with a stellar effective temperature of 3860°K, and an absolute magnitude of 8.32. The life zone of the primary ranges from 0.182 au to 0.367 au; there is an extensive planetary system, including one planet within the life zone.

TRAVEL DATA

System contains eleven planets and seven satellites. Stellar 0.0001 g-gradient is located at 1.790 au; 0.1 g-gradient is located at 0.057 au. Planets I – IV are within the stellar 0.0001 g-gradient; planets V – XI are outside. Stutterwarp discharge is possible at the following system bodies: I, III IV, VI a, IX, IX b, IX c, and XI, in addition to primary; primary discharge body is XI for ships transiting the system, or at I for ships bound for the colony.

I - Nibelungen[1]

Planet is a Garden body orbiting at 0.30 au with a ring system. Travel distance within threshold is 1.49 au. Stutterwarp discharge is possible from an altitude of 6,032 km. A German colony is present on the world.

II - Darmstadt[1]

Planet is Rocky body orbiting at 0.48 au with no satellites. Travel distance within threshold is 1.31 au. Stutterwarp discharge is not possible due to sub-surface 0.1 g-gradient.

III - Munchen[1]

Planet is Failed Core body orbiting at 1.01 au with no satellites. Travel distance within threshold is 0.78 au. Stutterwarp discharge is possible from an altitude of 7,147 km.

IV - Wiesbaden[1]

Planet is Failed Core body orbiting at 1.41 au with no satellites. Travel distance within threshold is 0.38 au. Stutterwarp discharge is possible from an altitude of 5,956 km.

V - Neuscvhwanstein[1]

Planet is Ice Ball body orbiting at 2.82 au with one satellite. Planet is located beyond threshold. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient. Satellites consist of one Ice Ball. Stutterwarp discharge is not possible at the satellite.

System Brief: Neubayern

VI - Essen[1]

Planet is Ice Ball body orbiting at 5.36 au with two satellites. Planet is located beyond threshold. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient. Satellites consist of one Failed Core and one Chunk. Stutterwarp discharge is possible at the Failed Core satellite at an altitude of 2,880 km.

VII - Duisburg[1]

Planet is Rock body orbiting at 10.73 au with no satellites. Planet is located beyond threshold. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient.

VIII - Dortmund[1]

Planet is Ice Ball body orbiting at 20.38 au with no satellites. Planet is located beyond threshold. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient.

IX - Frankfurt[1]

Planet is Ice Ball body orbiting at 44.83 au with three satellites. Planet is located beyond threshold. Stutterwarp discharge is possible from an altitude of 772 km. Satellites consist of one Ring, one Rock, and one Ice Ball. Stutterwarp discharge is possible at the Rock satellite at an altitude of 705 km, and the Ice Ball at an altitude of 143 km

X - Augsburg[1]

Planet is Ice Ball body orbiting at 94.15 au with no satellites. Planet is located beyond threshold. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient.

XI - Wurzburg[1]

Planet is Failed Core body orbiting at 20.38 au with no satellites. Planet is located beyond threshold. Stutterwarp discharge is possible from an altitude of 12,603 km.

SOURCES

1. Colonial Atlas, © 1987 GDW / © 2005 FFE, provides canon information on the Neubayern system and Nibelungen world.

System Name	**Travel Data for Neubayern**

Navigational Data

Colonial Region	French	
Direct Distance From Sol	14.599	ly
Travel Distance from Sol	18.763	ly
Jumps from Sol	3	

Neighbour System	Distance	
Augereau	4.231	ly
Bessieres	**7.113**	ly
DM+53 1320	5.715	ly
		ly
		ly
		ly
		ly
		ly
		ly

	Stellar Coordinates			
	Primary	Companion	Companion	Companion
X	-8.4			
Y	4.4			
Z	11.1			

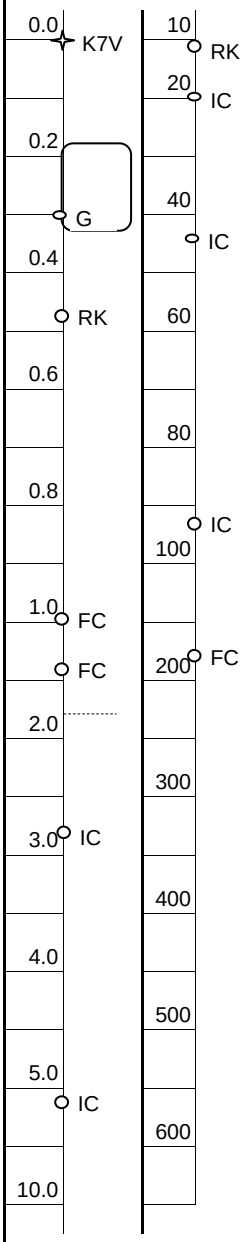
System Bodies with Stutterwarp Discharge (0.1G Gradient) Information

	Primary	Companion	Companion	Companion	Companion	
Stellar 0.1G Grad	0.057					au
Stellar 0.0001G Grad	1.790					au

Orbit	Orbit		Body Type	Position	T-Travel		Diameter, km	0.1G, km	0.1G Altitude	
I	**0.30**	**au**	**Garden**	**inside**	**1.49**	**au**	**8,000**	**10,032**	**6,032**	**km**
a	0.016	10^6 km	Ring			au	-	-	none	km
II	0.48	au	Rock	inside	1.31	au	1,000	400	none	km
III	1.01	au	Failed Core	inside	0.78	au	12,000	13,147	7,147	km
IV	1.41	au	Failed Core	inside	0.38	au	10,000	10,956	5,956	km
V	2.82	au	Ice Ball	outside	0.00	au	9,000	3,819	none	km
a	0.054	10^6 km	Ice Ball			au	6,000	2,940	none	km
VI	5.36	au	Ice Ball	outside	0.00	au	11,000	5,160	none	km
a	0.088	10^6 km	Failed Core			au	6,000	5,880	2,880	km
b	0.320	10^6 km	Chunk			au	600	147	none	km
VII	10.73	au	Rock	outside	0.00	au	1,000	374	none	km
VIII	20.38	au	Ice Ball	outside	0.00	au	2,000	800	none	km
IX	44.83	au	Ice Ball	outside	0.00	au	4,000	2,772	772	km
a	0.020	10^6 km	Ring			au	-	-	none	km
b	0.180	10^6 km	Rock			au	3,000	2,205	705	km
c	0.280	10^6 km	Ice Ball			au	3,000	1,643	143	km
X	94.15	au	Ice Ball	outside	0.00	au	3,000	1,039	none	km
XI	178.88	au	Failed Core	outside	0.00	au	18,000	21,603	12,603	km

Position: Inside indicates body orbits within the stellar 0.0001G gradient.
T-Travel: The distance that must be traveled within the stellar 0.0001G gradient to reach the body.
01.G: The distance of the 0.1G gradient from the core of the body.
0.1G Altitude: The distance of the 0.1G gradient above the surface of the body. A result of "none" indicates that a usable 0.1G gradient is not available and discharge cannot occur at the body.

System Schematic



AS Asteroid
CH Chunk
DS Desert
FC Failed Core
G Garden
GG Gas Giant
GL Glacier
HH Hot House
IC Ice Ball
PoG Post-Garden
PrG Pre-Garden
RK Rock
0.0001 G Grad
Life Zone

Notes

GDW's Colonial Atlas provides a chapter on the Neubayern System that describes Neubayern I in detail.

Values for all other planets and satellites are unofficial, except for name, type, and satellite quantity.

Germany has a colony on Neubayern I (Nibelungen).

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System Name	**Neubayern**

Navigational Data

Colonial Region	French
Direct Distance From Sol	14.599 ly
Travel Distance from Sol	18.763 ly
Jumps from Sol	3

Neighbour System	Distance
Augereau	4.231 ly
Bessieres	**7.113** ly
DM+53 1320	5.715 ly
	ly
	ly
	ly
	ly
	ly
	ly

	Stellar Coordinates			
	Primary	Companion	Companion	Companion
X	-8.4			
Y	4.4			
Z	11.1			

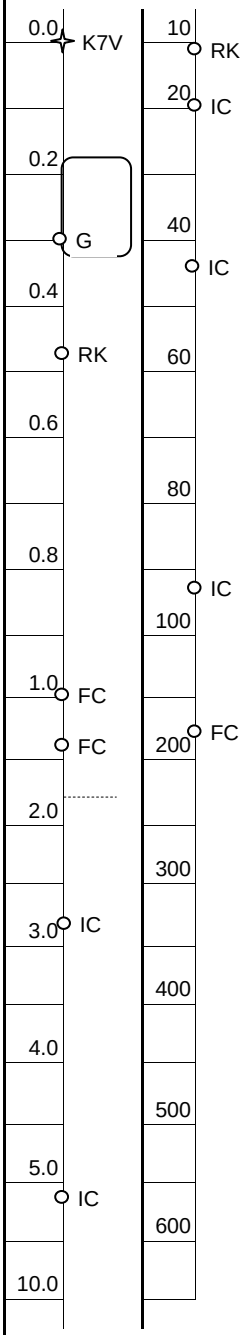
Stellar Data

	Primary	Companion	Companion	Companion	Companion
Name					
Spectral Class	K 7				
Size	V				
Magnitude	8.32				
Identification No.	3800.0				
Type	Orange Main				
Radius	0.552				
Mass	0.534				
Luminosity	0.0640				
Effective Temp	3860 °K	°K	°K	°K	°K
Orbit Radius	-	au	au	au	au
0.1 G Grad	0.057 au	au	au	au	au
0.0001 G Grad	1.790 au	au	au	au	au
Inner Life Zone	0.182 au	au	au	au	au
Optimal Life Zone	0.253 au	au	au	au	au
Outer Life Zone	0.367 au	au	au	au	au

Planetary Data

Orbit	Orbit	World Type	Diameter	Gravity	0.001 Grad	0.1 Grad	Sat
I	0.30 au	Garden	8,000 km	0.629 G	317,238 km	10,032 km	1
II	0.48 au	Rock	1,000 km	0.064 G	12,649 km	400 km	0
III	1.01 au	Failed Core	12,000 km	0.480 G	415,692 km	13,145 km	0
IV	1.41 au	Failed Core	10,000 km	0.480 G	346,410 km	10,954 km	0
V	2.82 au	Ice Ball	9,000 km	0.072 G	120,748 km	3,818 km	1
VI	5.36 au	Ice Ball	11,000 km	0.088 G	163,156 km	5,159 km	2
VII	10.73 au	Rock	1,000 km	0.056 G	11,832 km	374 km	0
VIII	20.38 au	Ice Ball	2,000 km	0.064 G	25,298 km	800 km	0
IX	44.83 au	Ice Ball	4,000 km	0.192 G	87,636 km	2,771 km	3
X	94.15 au	Ice Ball	3,000 km	0.048 G	32,863 km	1,039 km	0
XI	178.88 au	Failed Core	18,000 km	0.576 G	683,052 km	21,600 km	0
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	

System Schematic



AS Asteroid
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RK Rock
0.0001 G Grad
Life Zone

Notes

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System Name	**Neubayern**

Planetary Data

World Name	Nibelungen (I)	Darmstadt (II)	Munchen (III)	Wiesbaden (IV)	schwanstein (V)	Essen (VI)
Orbit, au	0.30	0.30	1.01	1.41	2.82	5.36
Zone	life	outer	outer	outer	outer	outer
Core Type	rocky	rocky	icy	icy	icy	icy
Diameter, km	8,000	1,000	12,000	10,000	9,000	11,000
Density	1.0	0.8	0.5	0.6	0.1	0.1
Min MW Retained	17	vac	15	18	vac	94
Mass	0.252	0.000	0.426	0.296	0.036	0.066
Gravity, G	0.629	0.064	0.480	0.480	0.072	0.088
Atmos Pressure, atm	0.661	0.000	0.496	0.496	0.000	0.091
Escape Velocity, kps	7.170	0.717	5.378	5.378	0.807	0.986
Atmos Type	Dense	Vacuum	Dense	Dense	Vacuum	Very Thin
Actual World Type	Garden	Rock	Failed Core	Failed Core	Ice Ball	Ice Ball
Water Type	Oceans	Rare Ice	Ice Sheets	Ice Sheets	Plentiful	Plentiful
Water Coverage, %	30 %	<1 %	90 %	60 %	20 %	30 %
Atmospheric Oxygen, %	14	none	none	none	none	none
Oxygen Pressure, atm	0.092556124	none	none	none	none	none
Temperature Class	Temperate	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold
Temperature Range, °C	0° to 30°	0° or less	0° or less	0° or less	0° or less	0° or less
Orbital Period, days	82.1	82.1	507.3	836.9	2367.0	6202.5
Rotation Period	tidal lock	60 days	29.52 hours	41.37 hours	25.18 hours	25.09 hours
Axial Tilt, °	8.0	35.0	33.0	22.0	34.0	34.0
Number of Satellites	0	0	0	0	1	2
0.0001G Gradient, km	317,238	12,651	415,751	346,459	120,765	163,179
0.1G Gradient, km	10,032	400	13,147	10,956	3,819	5,160
Inner Life Zone, km						
Optimal Life Zone, km						
Outer Life Zone, km						
Luminosity						

World Name	Duisburg (VII)	Dortmund (VIII)	Frankfurt (IX)	Augsburg (X)	Wurzburg (XI)	
Orbit, au	10.73	20.38	44.83	94.15	178.88	
Zone	outer	outer	outer	outer	outer	
Core Type	rocky	icy	icy	icy	icy	
Diameter, km	1,000	2,000	4,000	3,000	18,000	
Density	0.7	0.4	0.6	0.2	0.4	
Min MW Retained	vac	vac	118	vac	8	
Mass	0.000	0.002	0.019	0.003	1.150	
Gravity, G	0.056	0.064	0.192	0.048	0.576	
Atmos Pressure, amt	0.000	0.000	0.198	0.000	0.595	
Escape Velocity, kps	0.627	0.717	2.151	0.538	6.453	
Atmos Type	Vacuum	Vacuum	Very Thin	Vacuum	Dense	
Actual World Type	Rock	Ice Ball	Ice Ball	Ice Ball	Failed Core	
Water Type	Rare Ice	Plentiful	Plentiful	Plentiful	Ice Sheets	
Water Coverage, %	<1 %	40 %	10 %	30 %	20 %	
Atmospheric Oxygen, %	none	none	none	none	none	
Oxygen Pressure, atm	none	none	none	none	none	
Temperature Class	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	
Temperature Range, °C	0° or less	0° or less	0° or less	0° or less	0° or less	
Orbital Period, days	17567.9	45986.0	150028.1	456614.9	1195810.3	
Rotation Period	tidal lock	tidal lock	17.01 hours	41 hours	37 hours	
Axial Tilt, °	37.0	4.0	16.0	11.0	15.0	
Number of Satellites	0	0	3	0	0	
0.0001G Gradient, km	11,834	25,302	87,648	32,868	683,149	
0.1G Gradient, km	374	800	2,772	1,039	21,603	
Inner Life Zone, km						
Optimal Life Zone, km						
Outer Life Zone, km						
Luminosity						

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System Name	**Neubayern**

Satellite Data

Satellite Name	Nibelungen (I) a		Montez (V a)		Dusseldorf (VI) a	erhausen (VI) b
Zone	life		outer		outer	outer
Core Type	rocky		icy		rocky	icy
Diameter, km	Ring		6,000		6,000	600
Orbital Radius	2		6		8	120
Orbital Radius, km	16,000		54,000		88,000	1,320,000
Density	0.7		0.2		0.8	0.5
Min MW Retained	vac		vac		39	vac
Mass	0.000		0.021		0.085	0.000
Gravity, G	0.006		0.096		0.384	0.024
Atmos Pressure, atm	0.000		0.000		0.397	0.000
Escape Velocity, kps	0.063		1.076		4.302	0.269
Atmos Type	Vacuum		Vacuum		Standard	Vacuum
Actual World Type	Ring		Ice Ball		Failed Core	Chunk
Water Type	None		Plentiful		Ice Sheets	Rare Ice
Water Coverage, %	0 %		60 %		50 %	<1 %
Atmospheric Oxygen, %	none		none		none	none
Oxygen Pressure, atm	none		none		none	none
Temperature Class	Cold-Hot		Cold-VCold		Cold-VCold	Cold-VCold
Temperature Range, °C	-30° to 30°		0° or less		0° or less	0° or less
Orbital Period, days	None		7.4		11.3	657.4
Rotation Period	None		33.26 hours		17.3 hours	25.02 hours
Axial Tilt, °	None		29.0		21.0	25.0
0.0001G Gradient, km	0		92,965		185,930	4,648
0.1G Gradient, km	0		2,940		5,880	147
Notes						

Satellite Name	Nurnberg (IX) b	Koln (IX) c	Lubeck (IX) a			
Zone	outer	outer	outer			
Core Type	icy	rocky	icy			
Diameter, km	Ring	3,000	3,000			
Orbital Radius	5	45	70			
Orbital Radius, km	20,000	180,000	280,000			
Density	0.1	0.9	0.5			
Min MW Retained	vac	vac	vac			
Mass	0.000	0.012	0.007			
Gravity, G	0.001	0.216	0.120			
Atmos Pressure, amt	0.000	0.000	0.000			
Escape Velocity, kps	0.009	2.420	1.344			
Atmos Type	Vacuum	Vacuum	Vacuum			
Actual World Type	Ring	Rock	Ice Ball			
Water Type	None	Rare Ice	Plentiful			
Water Coverage, %	0 %	<1 %	60 %			
Atmospheric Oxygen, %	none	none	none			
Oxygen Pressure, atm	none	none	none			
Temperature Class	Cold-VCold	Cold-VCold	Cold-VCold			
Temperature Range, °C	0° or less	0° or less	0° or less			
Orbital Period, days	None	61.7	119.7			
Rotation Period	None	33.04 hours	49.02 hours			
Axial Tilt, °	None	23.0	28.0			
0.0001G Gradient, km	0	69,724	51,969			
0.1G Gradient, km	0	2,205	1,643			
Notes						

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