

		CLOUDY	COSTAR	MEUDON	UCL_PDR	KOSMA	HTBKW	BENSCH	Aikawa	Leiden	Lee96mod	Sternberg	Meijerink
GEOMETRY													
	<i>spherical</i>	☒				☒		☒					
	<i>plane-parallel, finite</i>	☒		☒			☒			☒			
	<i>plane-parallel, semi-infinite</i>	☒		☒	☒		☒		☒	☒	☒	☒	☒
	<i>circumstellar disc</i>	☒	☒										
	<i>ensemble of clouds</i>					☒		☒					
DENSITY													
	<i>homogeneous</i>	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	<i>density-law</i>	☒		☒	☒	☒		☒	☒	☒	☒	☒	
	<i>time dependant</i>	☒											
	<i>velocity field</i>	☒				☒		☒					
	<i>v = const</i>	☒				☒		☒					
	<i>v= v(r,...)</i>												
RADIATION													
	<i>isotropic radiation field</i>			☒		☒		☒					
	<i>uni-directional radiation field</i>	☒	☒	☒	☒		☒		☒	☒	☒	☒	☒
	<i>combination of isotropic+illuminating star</i>			☒									
	<i>Habing field</i>	☒			☒		☒			☒			☒
	<i>Draine field</i>	☒	☒	☒		☒	☒	☒		☒		☒	
	<i>optional star</i>	☒		☒									
	<i>detailed SED</i>	☒		☒									
	<i>other</i>								☒	☒	☒		
	<i>external radiation source</i>	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	<i>internal radiation source</i>												
CHEMISTRY													
	<i>stationary chemistry</i>	☒	☒	☒		☒	☒	☒		☒		☒	☒
	<i>time-dependant chemistry</i>	☒			☒				☒		☒		
	<i>UMIST 95</i>			☒	☒	☒				☒		☒	☒

HEATING

	CLOUDY	COSTAR	MEUDON	UCL_PDR	KOSMA	HTBKW	BENSCH	Aikawa	Leiden	Lee96mod	Sternberg	Meijerink
gas-grain cooling	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
radiative recombination	☐				☐		☐				☐	
chemical balance			☐									
O lines	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
¹² CO rotational lines	☐	☐	☐	☐	☐	☐	☐	☐	☐			☐
¹³ CO rotational lines	☐		☐		☐		☐	☐				☐
C+ line	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
CI lines	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
Si+ lines	☐		☐		☐	☐	☐				☐	☐
OH rotational lines			☐		☐	☐	☐					☐
H ₂ O rotational lines			☐		☐	☐	☐					☐
H ₂ rotational lines	☐		☐	☐								
HD rotational lines	☐		☐									
O 6300 Å metastable lines	☐	☐		☐								
CH rotational lines		☐										
Ly α metastable lines	☐	☐		☐								
Fe(24μ,34μ), Fe+(26μ,35.4μ)	☐					☐						
H ₂ (rot-vib)	☐					☐						
H ₂ vibrational deexcitation	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
single line approx.	☐	☐		☐		☐		☐	☐			☐
only v-levels, but no J					☐		☐				☐	
full rot-vib treatment	☐		☐								☐	
H ₂ dissociation	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
H ₂ formation	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
CR heating	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
PE heating	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
XR heating	☐			☐		☐						
PAH heating	☐		☐			☐			☐			
photoionization	☐	☐		☐					☐			☐
carbon ionisation heating	☐	☐		☐					☐			

		CLOUDY	COSTAR	MEUDON	UCL_PDR	KOSMA	HTBKW	BENSCH	Aikawa	Leiden	Lee96mod	Sternberg	Meijerink
	IR pumping	☐	☐		☐		☐			☐			
OBSERVATIONAL LINES													
	selfconsistent treatment with cooling	☐			☐								
	escape probability	☐					☐		☐	☐		☐	☐
	other			☐		☐		☐					
	H2	☐		☐									
	HD			☐									
	12CO	☐		☐	☐	☐	☐	☐	☐				
	13CO	☐		☐		☐		☐					
	C18O			☐		☐		☐					
	13C18O			☐		☐		☐					
	O	☐		☐	☐	☐	☐	☐	☐	☐		☐	☐
	C+	☐		☐	☐	☐	☐	☐	☐	☐		☐	☐
	CI	☐		☐	☐	☐	☐	☐	☐	☐		☐	☐
	Si+	☐		☐			☐						
	CS			☐									
	H2O						☐						
	H218O												
	HCO+			☐		☐	☐	☐					
	OH						☐						
	SiI	☐					☐						
	SI,SII	☐					☐						
	FeI, FeII	☐					☐						
COMPUTED LINE PROPERTIES													
	resolved line profile			☐		☐	☐	☐		☐			
	continuum rad./rad transfer in UV	☐		☐									
	line center intensities	☐		☐		☐		☐					
	line integrated intensities	☐		☐	☐	☐	☐	☐		☐			☐
	optical depths	☐		☐	☐	☐	☐	☐		☐			
	Gaussian line profile	☐		☐		☐	☐	☐		☐			
	box line profile												
	turbulence included	☐		☐		☐		☐					

COLLISIONS

	CLOUDY	COSTAR	MEUDON	UCL_PDR	KOSMA	HTBKW	BENSCH	Aikawa	Leiden	Lee96mod	Sternberg	Meijerink
H-H	☐					☐					☐	
H2-H	☐		☐	☐		☐			☐		☐	
H2 - H+	☐		☐								☐	
H2 - e	☐					☐					☐	
H2 - H2	☐		☐			☐			☐		☐	
CO-H	☐	☐	☐	☐		☐			☐			☐
CO-H2	☐	☐		☐	☐	☐			☐			☐
CO-e	☐	☐		☐	☐							☐
C-H	☐	☐		☐	☐	☐			☐		☐	
C-H2	☐	☐		☐	☐	☐			☐			
C-e	☐			☐								
C - H2O	☐											
C+ - H	☐	☐	☐	☐		☐			☐			
C+ - H2	☐	☐	☐	☐	☐	☐			☐			☐
C+ - e	☐	☐		☐	☐	☐			☐			
OI - H	☐	☐	☐	☐	☐	☐			☐		☐	
OI - H2	☐	☐	☐	☐	☐	☐			☐		☐	☐
OI - H+	☐			☐					☐			
OI - e	☐	☐		☐		☐						
OH - H	☐											
OH - He	☐											
OH - H2	☐				☐	☐						
H- - H	☐											
e - H2O	☐											
H - H2O	☐											
H2 - H2O	☐					☐						
O - H2O	☐											
dust - H/H2	☐					☐						
dust-any	☐											
CO - He	☐		☐	☐								
O - He	☐			☐								

	CLOUDY	COSTAR	MEUDON	UCL_PDR	KOSMA	HTBKW	BENSCH	Aikawa	Leiden	Lee96mod	Sternberg	Meijerink
C - He				☐								
Si+ - H	☐		☐									
HD - H			☐									
HD - H2			☐			☐						
PAH-any	☐					☐						
OUTPUT												
abundance profile over (Av/depth)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
column density over (Av/depth)	☐		☐		☐		☐				☐	☐
temperature profile over (Av/depth)	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐
emitted intensities	☐		☐	☐	☐	☐	☐		☐		☐	☐
opacities at line center			☐		☐	☐	☐		☐			
heating and cooling rates over (Av/depth)	☐		☐		☐		☐				☐	
chemical rates over (Av/depth)			☐		☐		☐				☐	
excitation diagram of H2	☐		☐									

Model Name

CLOUDY

COSTAR

MEUDON

UCL_PDR

KOSMA

HTBKW

BENSCH

AIKAWA

LEIDEN

Lee96mod

Sternberg

Meijerink

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