

Stata Textbook Examples**Introductory Econometrics: A Modern Approach by Jeffrey M. Wooldridge (1st & 2nd eds.)****Chapter 8 - Heteroskedasticity****Example 8.1: Log Wage Equation with Heteroscedasticity-Robust Standard Errors**

```
use http://fmwww.bc.edu/ec-p/data/wooldridge/WAGE2
```

```
gen single=(~married)
```

```
gen male=(~female)
```

```
gen marrmale=male*married
```

```
gen marrfem=female*married
```

```
gen singfem=single*female
```

```
reg lwage marrmale marrfem singfem educ exper expersq tenure tenursq, robust
```

Regression with robust standard errors

Number of obs = 526
 F(8, 517) = 51.70
 Prob > F = 0.0000
 R-squared = 0.4609
 Root MSE = .39329

lwage	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
marrmale	.2126756	.0571419	3.72	0.000	.1004167	.3249345
marrfem	-.1982676	.05877	-3.37	0.001	-.313725	-.0828102
singfem	-.1103502	.0571163	-1.93	0.054	-.2225587	.0018583
educ	.0789103	.0074147	10.64	0.000	.0643437	.0934769
exper	.0268006	.0051391	5.22	0.000	.0167044	.0368967
expersq	-.0005352	.0001063	-5.03	0.000	-.0007442	-.0003263
tenure	.0290875	.0069409	4.19	0.000	.0154516	.0427234
tenursq	-.0005331	.0002437	-2.19	0.029	-.0010119	-.0000544
_cons	.321378	.109469	2.94	0.003	.1063193	.5364368

```
reg lwage marrmale marrfem singfem educ exper expersq tenure tenursq
```

Source	SS	df	MS	Number of obs =	526
Model	68.3617614	8	8.54522017	F(8, 517) =	55.25
Residual	79.9680004	517	.154676983	Prob > F =	0.0000
				R-squared =	0.4609

```
-----+-----
Total | 148.329762 525 .28253288
```

Adj R-squared = 0.4525

Root MSE = .39329

```
-----+-----
lwage | Coef. Std. Err. t P>|t| [95% Conf. Interval]
-----+-----
marrmale | .2126756 .0553572 3.84 0.000 .103923 .3214283
marrfem | -.1982676 .0578355 -3.43 0.001 -.3118891 -.0846462
singfem | -.1103502 .0557421 -1.98 0.048 -.219859 -.0008414
educ | .0789103 .0066945 11.79 0.000 .0657585 .0920621
exper | .0268006 .0052428 5.11 0.000 .0165007 .0371005
expersq | -.0005352 .0001104 -4.85 0.000 -.0007522 -.0003183
tenure | .0290875 .006762 4.30 0.000 .0158031 .0423719
tenursq | -.0005331 .0002312 -2.31 0.022 -.0009874 -.0000789
_cons | .321378 .100009 3.21 0.001 .1249041 .517852
-----+-----
```

Example 8.2: Heteroscedastisity-Robust F Statistics

use <http://fmwww.bc.edu/ec-p/data/wooldridge/GPA3>

```
reg cumgpa sat hsperc tothrs female black white if term==2, robust
```

Regression with robust standard errors

Number of obs = 366

F(6, 359) = 39.30

Prob > F = 0.0000

R-squared = 0.4006

Root MSE = .46929

```
-----+-----
cumgpa | Robust
Coef. Std. Err. t P>|t| [95% Conf. Interval]
-----+-----
sat | .0011407 .0001915 5.96 0.000 .0007641 .0015174
hsperc | -.0085664 .0014179 -6.04 0.000 -.0113548 -.0057779
tothrs | .002504 .0007406 3.38 0.001 .0010475 .0039605
female | .3034333 .0591378 5.13 0.000 .1871332 .4197334
black | -.1282837 .1192413 -1.08 0.283 -.3627829 .1062155
white | -.0587217 .111392 -0.53 0.598 -.2777846 .1603411
_cons | 1.470065 .2206802 6.66 0.000 1.036076 1.904053
-----+-----
```

```
reg cumgpa sat hsperc tothrs female black white if term==2
```

```
Source | SS df MS Number of obs = 366
```

-----+-----				F(6, 359) = 39.98		
Model		52.831358	6	8.80522634	Prob > F = 0.0000	
Residual		79.062328	359	.220229326	R-squared = 0.4006	
-----+-----				Adj R-squared = 0.3905		
Total		131.893686	365	.361352564	Root MSE = .46929	
-----+-----						
cumgpa		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
-----+-----						
sat		.0011407	.0001786	6.39	0.000	.0007896 .0014919
hsperc		-.0085664	.0012404	-6.91	0.000	-.0110058 -.006127
tothrs		.002504	.000731	3.43	0.001	.0010664 .0039415
female		.3034333	.0590203	5.14	0.000	.1873643 .4195023
black		-.1282837	.1473701	-0.87	0.385	-.4181009 .1615335
white		-.0587217	.1409896	-0.42	0.677	-.3359909 .2185475
_cons		1.470065	.2298031	6.40	0.000	1.018135 1.921994

Example 8.3: Heteroskedasticity-Robust LM Statistic

use <http://fmwww.bc.edu/ec-p/data/wooldridge/CRIME1>

gen avgsensq=avgsen*avgsen

reg narr86 pcnv avgsen avgsensq ptime86 qemp86 inc86 black hispan, robust

Regression with robust standard errors

Number of obs = 2725
 F(8, 2716) = 29.84
 Prob > F = 0.0000
 R-squared = 0.0728
 Root MSE = .82843

-----+-----						
narr86	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
pcnv	-.1355954	.0336218	-4.03	0.000	-.2015223	-.0696685
avgsen	.0178411	.0101233	1.76	0.078	-.0020091	.0376913
avgsensq	-.0005163	.0002077	-2.49	0.013	-.0009236	-.0001091
ptime86	-.03936	.0062236	-6.32	0.000	-.0515634	-.0271566
qemp86	-.0505072	.0142015	-3.56	0.000	-.078354	-.0226603
inc86	-.0014797	.0002295	-6.45	0.000	-.0019297	-.0010296
black	.3246024	.0585135	5.55	0.000	.2098669	.439338
hispan	.19338	.0402983	4.80	0.000	.1143616	.2723985
_cons	.5670128	.0402756	14.08	0.000	.4880389	.6459867

Turning point for avgsen

```
di _b[avgsen]/(2*_b[avgsensq])
```

-17.276862

di就是display。

```
reg narr86 pcnv ptime86 qemp86 inc86 black hispan
```

Source	SS	df	MS	
Model	143.977563	6	23.9962606	
Residual	1866.36959	2718	.686670196	
Total	2010.34716	2724	.738012906	

Number of obs	=	2725
F(6, 2718)	=	34.95
Prob > F	=	0.0000
R-squared	=	0.0716
Adj R-squared	=	0.0696
Root MSE	=	.82866

narr86	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
pcnv	-.1322784	.0403406	-3.28	0.001	-.2113797 -.0531771
ptime86	-.0377953	.008497	-4.45	0.000	-.0544566 -.021134
qemp86	-.0509814	.0144359	-3.53	0.000	-.0792878 -.022675
inc86	-.00149	.0003404	-4.38	0.000	-.0021575 -.0008224
black	.3296885	.0451778	7.30	0.000	.2411022 .4182748
hispan	.1954509	.0396929	4.92	0.000	.1176195 .2732823
_cons	.5703344	.0360073	15.84	0.000	.49973 .6409388

```
predict ubar1, resid
```

```
quiete reg avgsen pcnv ptime86 qemp86 inc86 black hispan
```

```
predict r1, r
```

```
quiete reg avgsensq pcnv ptime86 qemp86 inc86 black hispan
```

```
predict r2, r
```

```
quite gen ur1 = ubar1*r1
```

```
quite gen ur2 = ubar1*r2
```

```
gen iota = 1
```

```
reg iota ur1 ur2, noconstant
```

Source	SS	df	MS	Number of obs =	2725
Model	3.99708536	2	1.99854268	F(2, 2723) =	2.00
Residual	2721.00291	2723	.999266586	Prob > F =	0.1355
				R-squared =	0.0015
				Adj R-squared =	0.0007
Total	2725.00	2725	1.00	Root MSE =	.99963

iota	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ur1	.0277846	.0140598	1.98	0.048	.0002156	.0553537
ur2	-.0010447	.0005479	-1.91	0.057	-.002119	.0000296

```
scalar hetlm = e(N)-e(rss)
```

```
scalar pval = chi2tail(2,hetlm)
```

```
display _n "Robust LM statistic : " %6.3f hetlm /*
```

```
> */ _n "Under H0, distrib Chi2(2), p-value: " %5.3f pval
```

```
Robust LM statistic : 3.997
```

```
Under H0, distrib Chi2(2), p-value: 0.136
```

```
reg narr86 pcnv ptime86 qemp86 inc86 black hispan
```

Source	SS	df	MS	Number of obs =	2725
Model	143.977563	6	23.9962606	F(6, 2718) =	34.95
Residual	1866.36959	2718	.686670196	Prob > F =	0.0000
				R-squared =	0.0716
				Adj R-squared =	0.0696
Total	2010.34716	2724	.738012906	Root MSE =	.82866

narr86	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
pcnv	-.1322784	.0403406	-3.28	0.001	-.2113797	-.0531771
ptime86	-.0377953	.008497	-4.45	0.000	-.0544566	-.021134
qemp86	-.0509814	.0144359	-3.53	0.000	-.0792878	-.022675
inc86	-.00149	.0003404	-4.38	0.000	-.0021575	-.0008224
black	.3296885	.0451778	7.30	0.000	.2411022	.4182748
hispan	.1954509	.0396929	4.92	0.000	.1176195	.2732823
_cons	.5703344	.0360073	15.84	0.000	.49973	.6409388

```
predict ubar2, resid
```

```
reg ubar2 pcnv avgsen avgsensq ptime86 qemp86 inc86 black hispan
```

Source	SS	df	MS	Number of obs = 2725		
Model	2.37155739	8	.296444674	F(8, 2716) = 0.43		
Residual	1863.99804	2716	.686302664	Prob > F = 0.9025		
				R-squared = 0.0013		
				Adj R-squared = -0.0017		
Total	1866.36959	2724	.685157707	Root MSE = .82843		

ubar1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
pcnv	-.003317	.0403699	-0.08	0.935	-.0824758	.0758418
avgsen	.0178411	.009696	1.84	0.066	-.0011713	.0368534
avgsensq	-.0005163	.000297	-1.74	0.082	-.0010987	.0000661
ptime86	-.0015647	.0086935	-0.18	0.857	-.0186112	.0154819
qemp86	.0004742	.0144345	0.03	0.974	-.0278295	.0287779
inc86	.0000103	.0003405	0.03	0.976	-.0006574	.000678
black	-.0050861	.0454188	-0.11	0.911	-.094145	.0839729
hispan	-.0020709	.0397035	-0.05	0.958	-.0799229	.0757812
_cons	-.0033216	.0360573	-0.09	0.927	-.0740242	.0673809

```
scalar lm1 = e(N)*e(r2)
```

```
display _n "LM statistic : " %6.3f lm1 /*
```

```
LM statistic : 3.5425
```

Example 8.4: Heteroscedasticity in Housing Price Equation

```
use http://fmwww.bc.edu/ec-p/data/wooldridge/HPRICE1
```

```
reg price lotsize sqrft bdrms
```

Source	SS	df	MS	Number of obs = 88		
Model	617130.701	3	205710.234	F(3, 84) = 57.46		
Residual	300723.805	84	3580.0453	Prob > F = 0.0000		
				R-squared = 0.6724		
				Adj R-squared = 0.6607		
Total	917854.506	87	10550.0518	Root MSE = 59.833		

price	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-------	-------	-----------	---	------	----------------------	--

lotsize		.0020677	.0006421	3.22	0.002	.0007908	.0033446
sqrft		.1227782	.0132374	9.28	0.000	.0964541	.1491022
bdrms		13.85252	9.010145	1.54	0.128	-4.06514	31.77018
_cons		-21.77031	29.47504	-0.74	0.462	-80.38466	36.84404

whitetst, fitted

White's special test statistic : 16.26842 Chi-sq(2) P-value = 2.9e-04

reg lprice llotsize lsqrft bdrms

Source		SS	df	MS		Number of obs =	88
Model		5.15504028	3	1.71834676		F(3, 84) =	50.42
Residual		2.86256324	84	.034078134		Prob > F =	0.0000
						R-squared =	0.6430
						Adj R-squared =	0.6302
Total		8.01760352	87	.092156362		Root MSE =	.1846

lprice		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
llotsize		.1679667	.0382812	4.39	0.000	.0918404 .244093
lsqrft		.7002324	.0928652	7.54	0.000	.5155597 .8849051
bdrms		.0369584	.0275313	1.34	0.183	-.0177906 .0917074
_cons		-1.297042	.6512836	-1.99	0.050	-2.592191 -.0018931

whitetst, fitted

White's special test statistic : 3.447243 Chi-sq(2) P-value = .1784

Example 8.5: Special Form of the White Test in the Log Housing Price Equation

use <http://fmwww.bc.edu/ec-p/data/wooldridge/HPRICE1>

reg lprice llotsize lsqrft bdrms

Source		SS	df	MS		Number of obs =	88
Model		5.15506425	3	1.71835475		F(3, 84) =	50.42
Residual		2.86255771	84	.034078068		Prob > F =	0.0000
						R-squared =	0.6430
						Adj R-squared =	0.6302
Total		8.01762195	87	.092156574		Root MSE =	.1846

lprice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
llotsize	.167968	.0382811	4.39	0.000	.0918418	.2440941
lsqrft	.7002326	.0928652	7.54	0.000	.5155601	.8849051
bdrms	.0369585	.0275313	1.34	0.183	-.0177905	.0917075
_cons	5.6107	.6512829	8.61	0.000	4.315553	6.905848

whitetst, fitted

White's special test statistic : 3.447286 Chi-sq(2) P-value = .1784

Example 8.6: Family Saving Equation

use <http://fmwww.bc.edu/ec-p/data/wooldridge/SAVING>

reg sav inc

Source	SS	df	MS	Number of obs =	100
Model	66368437.0	1	66368437.0	F(1, 98) =	6.49
Residual	1.0019e+09	98	10223460.8	Prob > F =	0.0124
				R-squared =	0.0621
				Adj R-squared =	0.0526
Total	1.0683e+09	99	10790581.8	Root MSE =	3197.4

sav	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inc	.1466283	.0575488	2.55	0.012	.0324247	.260832
_cons	124.8424	655.3931	0.19	0.849	-1175.764	1425.449

reg sav inc [aw = 1/inc]

(sum of wgt is 1.3877e-02)

Source	SS	df	MS	Number of obs =	100
Model	58142339.8	1	58142339.8	F(1, 98) =	9.14
Residual	623432468	98	6361555.80	Prob > F =	0.0032
				R-squared =	0.0853
				Adj R-squared =	0.0760
Total	681574808	99	6884594.02	Root MSE =	2522.2

sav	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inc	.1717555	.0568128	3.02	0.003	.0590124	.2844986
_cons	-124.9528	480.8606	-0.26	0.796	-1079.205	829.2994

reg sav inc size educ age black

Source	SS	df	MS	Number of obs = 100		
Model	88426246.4	5	17685249.3	F(5, 94)	=	1.70
Residual	979841351	94	10423844.2	Prob > F	=	0.1430
Total	1.0683e+09	99	10790581.8	R-squared	=	0.0828
				Adj R-squared	=	0.0340
				Root MSE	=	3228.6

sav	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inc	.109455	.0714317	1.53	0.129	-.0323742	.2512842
size	67.66119	222.9642	0.30	0.762	-375.0395	510.3619
educ	151.8235	117.2487	1.29	0.199	-80.97646	384.6235
age	.2857217	50.03108	0.01	0.995	-99.05217	99.62361
black	518.3934	1308.063	0.40	0.693	-2078.796	3115.583
_cons	-1605.416	2830.707	-0.57	0.572	-7225.851	4015.019

reg sav inc size educ age black [aw = 1/inc]

(sum of wgt is 1.3877e-02)

Source	SS	df	MS	Number of obs = 100		
Model	71020334.9	5	14204067.0	F(5, 94)	=	2.19
Residual	610554473	94	6495260.35	Prob > F	=	0.0621
Total	681574808	99	6884594.02	R-squared	=	0.1042
				Adj R-squared	=	0.0566
				Root MSE	=	2548.6

sav	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inc	.1005179	.0772511	1.30	0.196	-.052866	.2539017
size	-6.868501	168.4327	-0.04	0.968	-341.2956	327.5586
educ	139.4802	100.5362	1.39	0.169	-60.1368	339.0972
age	21.74721	41.30598	0.53	0.600	-60.26678	103.7612
black	137.2842	844.5941	0.16	0.871	-1539.677	1814.246
_cons	-1854.814	2351.797	-0.79	0.432	-6524.362	2814.734

Example 8.7: Demand for Cigarettes

```
use http://fmwww.bc.edu/ec-p/data/wooldridge/SMOKE
```

```
reg cigs lincome lcigpric educ age agesq restaurn
```

Source	SS	df	MS	Number of obs =	807
Model	8003.02506	6	1333.83751	F(6, 800) =	7.42
Residual	143750.658	800	179.688322	Prob > F =	0.0000
				R-squared =	0.0527
				Adj R-squared =	0.0456
Total	151753.683	806	188.280003	Root MSE =	13.405

cigs	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lincome	.8802689	.7277838	1.21	0.227	-.5483223	2.30886
lcigpric	-.7508498	5.773343	-0.13	0.897	-12.08354	10.58184
educ	-.5014982	.1670772	-3.00	0.003	-.8294597	-.1735368
age	.7706936	.1601223	4.81	0.000	.456384	1.085003
agesq	-.0090228	.001743	-5.18	0.000	-.0124443	-.0056013
restaurn	-2.825085	1.111794	-2.54	0.011	-5.007462	-.642708
_cons	-3.639884	24.07866	-0.15	0.880	-50.9047	43.62493

Change in cigs if income increases by 10%

```
display _b[lincome]*10/100
.08802689
```

Turnover point for age

```
display _b[age]/2/_b[agesq]
-42.708116
```

```
whitetst, fitted
```

```
White's special test statistic : 26.57258 Chi-sq( 2) P-value = 1.7e-06
```

```
gen lubar=log(ub*ub)
```

```
qui reg lubar lincome lcigpric educ age agesq restaurn
```

```
predict cigsh, xb
```

```
gen cigse = exp(cigsh)
```

```
reg cigs lincome lcigpric educ age agesq restaurn [aw=1/cigse]
```

```
(sum of wgt is 1.9977e+01)
```

Source	SS	df	MS	Number of obs = 807		
Model	10302.6415	6	1717.10692	F(6, 800) = 17.06		
Residual	80542.0684	800	100.677586	Prob > F = 0.0000		
Total	90844.71	806	112.710558	R-squared = 0.1134		
				Adj R-squared = 0.1068		
				Root MSE = 10.034		

cigs	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lincome	1.295241	.4370118	2.96	0.003	.4374154	2.153066
lcigpric	-2.94028	4.460142	-0.66	0.510	-11.69524	5.814684
educ	-.4634462	.1201586	-3.86	0.000	-.6993095	-.2275829
age	.4819474	.0968082	4.98	0.000	.2919194	.6719755
agesq	-.0056272	.0009395	-5.99	0.000	-.0074713	-.0037831
restaurn	-3.461066	.7955047	-4.35	0.000	-5.022589	-1.899543
_cons	5.63533	17.80313	0.32	0.752	-29.31103	40.58169

Example 8.8: Labor Force Participation of Married Women

```
use http://fmwww.bc.edu/ec-p/data/wooldridge/MROZ
```

```
reg inlf nwifeinc educ exper expersq age kidslt6 kidsge6
```

Source	SS	df	MS	Number of obs = 753		
Model	48.8080578	7	6.97257968	F(7, 745) = 38.22		
Residual	135.919698	745	.182442547	Prob > F = 0.0000		
Total	184.727756	752	.245648611	R-squared = 0.2642		
				Adj R-squared = 0.2573		
				Root MSE = .42713		

inlf	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
nwifeinc	-.0034052	.0014485	-2.35	0.019	-.0062488	-.0005616
educ	.0379953	.007376	5.15	0.000	.023515	.0524756

exper		.0394924	.0056727	6.96	0.000	.0283561	.0506287
expersq		-.0005963	.0001848	-3.23	0.001	-.0009591	-.0002335
age		-.0160908	.0024847	-6.48	0.000	-.0209686	-.011213
kidslt6		-.2618105	.0335058	-7.81	0.000	-.3275875	-.1960335
kidsge6		.0130122	.013196	0.99	0.324	-.0128935	.0389179
_cons		.5855192	.154178	3.80	0.000	.2828442	.8881943

```
reg inlf nwifeinc educ exper expersq age kidslt6 kidsge6, robust
```

Regression with robust standard errors

Number of obs	=	753
F(7, 745)	=	62.48
Prob > F	=	0.0000
R-squared	=	0.2642
Root MSE	=	.42713

inlf	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
nwifeinc	-.0034052	.0015249	-2.23	0.026	-.0063988	-.0004115
educ	.0379953	.007266	5.23	0.000	.023731	.0522596
exper	.0394924	.00581	6.80	0.000	.0280864	.0508983
expersq	-.0005963	.00019	-3.14	0.002	-.0009693	-.0002233
age	-.0160908	.002399	-6.71	0.000	-.0208004	-.0113812
kidslt6	-.2618105	.0317832	-8.24	0.000	-.3242058	-.1994152
kidsge6	.0130122	.0135329	0.96	0.337	-.013555	.0395795
_cons	.5855192	.1522599	3.85	0.000	.2866098	.8844287

Example 8.9: Determinants of Personal Computer Ownership

```
use http://fmwww.bc.edu/ec-p/data/wooldridge/GPA1
```

```
gen parcoll = (mothcoll / fathcoll)
```

```
reg PC hsGPA ACT parcoll
```

Source	SS	df	MS	Number of obs	=	141
Model	1.40186813	3	.467289377	F(3, 137)	=	1.98
Residual	32.3569971	137	.236182461	Prob > F	=	0.1201
				R-squared	=	0.0415
				Adj R-squared	=	0.0205
Total	33.7588652	140	.241134752	Root MSE	=	.48599

PC	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
hsGPA	.0653943	.1372576	0.48	0.635	-.2060231	.3368118
ACT	.0005645	.0154967	0.04	0.971	-.0300792	.0312082
parcoll	.2210541	.092957	2.38	0.019	.037238	.4048702
_cons	-.0004322	.4905358	-0.00	0.999	-.970433	.9695686

predict phat

gen h=phat(1-phat)*

reg PC hsGPA ACT parcoll [aw=1/h]
(sum of wgt is 6.2818e+02)

Source	SS	df	MS	Number of obs = 141	
Model	1.54663033	3	.515543445	F(3, 137) =	2.22
Residual	31.7573194	137	.231805251	Prob > F =	0.0882
Total	33.3039497	140	.237885355	R-squared =	0.0464
				Adj R-squared =	0.0256
				Root MSE =	.48146

PC	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
hsGPA	.0327029	.1298817	0.25	0.802	-.2241292	.289535
ACT	.004272	.0154527	0.28	0.783	-.0262847	.0348286
parcoll	.2151862	.0862918	2.49	0.014	.04455	.3858224
_cons	.0262099	.4766498	0.05	0.956	-.9163323	.9687521

This page prepared by Oleksandr Talavera (revised 8 Nov 2002)

Send your questions/comments/suggestions to Kit Baum at baum@bc.edu
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