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BAV-results of observations: Visual maxima and minima of pulsating and eruptive stars

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Abstract: *In this 95th compilation of BAV results of visual observations of variable stars obtained mostly in the year 2020 are presented, giving 212 maxima and 122 minima of pulsating and eruptive stars.*

We present 121 minima and 211 maxima of pulsating and eruptive stars. The results were acquired by 6 observers in Germany and France, mostly observed in the year 2020. The observations were made at private observatories.

This paper contains only unpublished observations. The types of the variable stars are taken from the GCVS-catalog [3] or observer.

Please use the following link for an easy access to all the publications of the BAV [1] [2].

Explanations to the table

column 1	Variable	designation from the GCVS
column 2		constellation
column 3	Phs	phase: maximum (max) or minimum (min)
column 4	HJD 24+	heliocentric UTC timings of the observed min or max
column 5	U	if uncertain, mark „ : “
column 6	Mag	visual magnitude
column 7	Obs	abbreviations, see table at the end of the list
column 8	Type	type of the variable star
column 9	n	number of observations

Tabelle 2: Times of minima and maxima

Variable		Ext	HJD 24+	U	Mag	Obs	Type	n
R	And	max	58741.00		7.0	RCR	M	29
R	And	max	58734.00		7.2	VOH	M	79
R	And	max	58737.00		7.0	NMN	M	15
Z	And	max	59038.00		10.5	VOH	ZAND	60
RS	And	max	58285.00		8.3	NMN	SRA	23
TU	And	max	58722.00		8.4	VOH	M	55
TU	And	max	59035.00		8.3	VOH	M	55
VX	And	max	58737.00		7.2	NMN	SRA	16
KX	And	max	58364.00		6.8	NMN	BE	8
KX	And	min	58384.00		7.5	NMN	BE	8
KX	And	max	58419.00		6.8	NMN	BE	6
KX	And	max	58843.00		6.9	NMN	BE	9
KX	And	max	58907.00		6.9	NMN	BE	7
R	Aql	min	58749.00		10.9	VOH	M	67
R	Aql	max	58884.00		6.6	VOH	M	69
RV	Aql	max	58769.00		10.0	VOH	M	28
RV	Aql	max	58991.00		10.0	VOH	M	34
R	Ari	max	58886.00		8.0	VOH	M	29
T	Ari	min	58805.00		10.4	VOH	M	53
R	Aur	max	58658.00		7.4	VOH	M	85
X	Aur	max	58798.00		8.5	VOH	M	47
X	Aur	max	58961.00		8.3	VOH	M	35
Z	Aur	max	58992.00		9.9	VOH	SR	25
Z	Aur	min	59083.00		11.0	VOH	SR	28
RU	Aur	max	58538.00		9.4	NMN	M	11
UV	Aur	max	58784.00		7.7	VOH	M	95
UV	Aur	max	58805.00		7.6	NMN	M	23
VX	Aur	max	58568.00		9.0	NMN	M	10
V0442	Aur	max	58550.00		7.4	DMT	SR:	22
R	Boo	max	58622.00		6.7	RCR	M	17
R	Boo	max	58854.00		7.4	VOH	M	42
R	Boo	min	58955.00		12.3	VOH	M	77
R	Boo	max	59077.00		7.5	VOH	M	57
V	Boo	min	58933.00		9.5	VOH	SR	109
V	Boo	min	59005.00		9.2	VOH	SR	109
V	Boo	max	59092.00		7.7	SM	SR	35
R	Cam	max	58749.00		9.2	VOH	M	97
R	Cam	max	58805.00		8.9	VOH	M	97
T	Cam	max	58813.00		7.8	VOH	M	85
X	Cam	max	58737.00		8.4	VOH	M	57
X	Cam	min	58823.00		12.4	VOH	M	51
X	Cam	max	58881.00		8.2	VOH	M	39
X	Cam	max	59047.00		8.9	VOH	M	42
X	Cam	min	59104.00		12.2	VOH	M	33
TW	Cam	min	58728.00		10.4	NMN	RV	5
TW	Cam	max	58763.00		9.4	NMN	RV	8
TW	Cam	min	58809.00		10.0	NMN	RV	7
TW	Cam	max	58861.00		9.3	NMN	RV	6
TW	Cam	min	58955.00		9.8	NMN	RV	9
WY	Cam	max	59026.00		9.4	VOH	M	85
X	Cnc	min	58577.50		7.5	DMT	SRB!	8
R	Cvn	max	58704.00		7.1	VOH	M	86
R	Cvn	min	58889.00		12.1	VOH	M	107
R	Cvn	max	59025.00	:	6.9	NMN	M	13
R	CMi	max	58549.00		7.4	NMN	M	17
R	CMi	max	58873.00		7.4	NMN	M	23
S	CMi	max	58556.00		7.8	NMN	M	15
S	CMi	max	58875.00		7.3	NMN	M	11
R	Cas	max	58736.00		6.0	VOH	M	130

Variable		Ext	HJD 24+	U	Mag	Obs	Type	n
R	Cas	min	58994.00		11.5	VOH	M	136
T	Cas	max	58685.00		7.6	VOH	M	167
T	Cas	min	58909.00		10.0	VOH	M	178
U	Cas	max	58769.00		8.3	VOH	M	67
U	Cas	max	59039.00		8.5	VOH	M	49
V	Cas	min	58711.00		13.0	VOH	M	83
V	Cas	max	58813.00		7.6	VOH	M	80
V	Cas	min	58930.00		12.2	VOH	M	76
V	Cas	max	59029.00		7.3	VOH	M	87
V	Cas	max	59023.00		7.0	NMN	M	16
W	Cas	min	58594.00		11.7	VOH	M	124
W	Cas	max	58804.00		8.8	VOH	M	172
W	Cas	min	59004.00		12.3	VOH	M	131
SV	Cas	min	58723.00		9.6	VOH	SR	84
SV	Cas	min	58719.00		9.2	NMN	SR	13
SV	Cas	max	58849.00		6.9	NMN	SR	14
WZ	Cas	max	58930.00		6.6	NMN	SRB	7
WZ	Cas	min	59064.00		7.7	NMN	SRB	14
V0667	Cas	max	58733.00		9.7	VOH	M	70
V0667	Cas	max	59080.00		10.1	VOH	M	46
T	Cep	max	58632.00		6.3	RCR	M	56
T	Cep	max	58626.00		6.3	VOH	M	164
T	Cep	min	58795.00		10.0	VOH	M	180
T	Cep	min	58789.00		9.8	NMN	M	10
T	Cep	max	58984.00		6.0	SM	M	32
W	Cep	max	58945.00		12.3	VOH	SRC	172
RU	Cep	min	58950.00	:	9.5	SM	SR	7
RU	Cep	min	59066.00		9.0	SM	SR	14
EO	Cep	max	58974.00		12.9	VOH	EA	18
FF	Cep	max	58247.00		9.7	NMN	LB	14
FF	Cep	max	58438.00		9.8	NMN	LB	12
PQ	Cep	max	58690.00		8.6	VOH	M	156
PQ	Cep	min	58912.00		10.8	VOH	M	167
OMI	Cet	max	58771.01		3.0	SM	M	23
OMI	Cet	max	58773.00		2.8	VOH	M	40
R	CrB	min	58775.00		8.4	VOH	RCB	60
S	CrB	max	58672.00		8.4	DMT	M!	9
S	CrB	max	58701.00		7.9	VOH	M	74
S	CrB	min	58915.00		13.1	VOH	M	90
S	CrB	max	59055.00		7.6	VOH	M	76
T	CrB	max	58631.00		9.7	VOH	NR	47
T	CrB	min	59010.00		10.2	VOH	NR	66
RR	CrB	max	59037.00		7.6	VOH	SRB	50
RR	CrB	min	59066.00		8.5	VOH	SRB	50
CHI	Cyg	max	58877.00		5.3	VOH		113
R	Cyg	max	58712.00		8.7	VOH	M	65
U	Cyg	max	58536.00		7.6	VOH	M	134
U	Cyg	min	58777.00		11.5	VOH	M	142
U	Cyg	max	58543.00		7.9	NMN	M	18
U	Cyg	max	58995.00		7.5	NMN	M	15
W	Cyg	max	58978.00		5.7	VOH	SRB	86
W	Cyg	min	59021.00		8.0	VOH	SRB	82
W	Cyg	min	59077.00		7.0	VOH	SRB	85
Z	Cyg	max	58838.00		8.0	VOH	M	59
RS	Cyg	min	58791.00		9.0	VOH	SRA	167
RS	Cyg	max	58621.00		7.1	NMN	SRA	21
RT	Cyg	max	58669.00		7.8	VOH	M	66
RT	Cyg	min	58770.00		11.8	VOH	M	55
RT	Cyg	max	58849.00		7.2	VOH	M	54
RT	Cyg	min	58961.00		12.4	VOH	M	78

Variable		Ext	HJD 24+	U	Mag	Obs	Type	n
RU	Cyg	max	58728.00		8.1	VOH	SRA	219
RU	Cyg	min	58894.00		8.7	VOH	SRA	219
RU	Cyg	max	59004.00		8.5	VOH	SRA	219
SX	Cyg	max	58876.00		8.5	VOH	M	42
TY	Cyg	max	58790.00	:	9.8	VOH	M	25
AA	Cyg	min	58908.00		10.0	VOH	SRB	152
AA	Cyg	max	58602.00		8.4	NMN	SRB	18
AA	Cyg	max	59009.00		8.2	NMN	SRB	19
AF	Cyg	max	58386.00		6.6	DMT	SRB	41
AF	Cyg	max	58748.01		6.6	SM	SRB	34
AF	Cyg	max	58937.99		7.0	SM	SRB	49
AF	Cyg	min	58690.00		8.1	VOH	SRB	89
AF	Cyg	max	58744.00		6.9	VOH	SRB	97
BG	Cyg	max	58803.00		9.3	VOH	M	28
CH	Cyg	max	58675.00		7.8	VOH	ZAND+SR	64
CH	Cyg	min	58772.00		9.2	VOH	ZAND+SR	157
CN	Cyg	max	58907.00		9.0	VOH	M	54
DR	Cyg	max	58880.00		9.0	VOH	M	36
S	Del	max	58763.00		8.6	NMN	M	11
U	Del	min	58282.00		7.0	NMN	SRB	7
U	Del	max	58372.00		6.7	NMN	SRB	7
U	Del	min	58407.00		7.4	NMN	SRB	10
U	Del	max	58433.00		6.6	NMN	SRB	6
R	Dra	min	58723.00		12.3	VOH	M	77
R	Dra	max	58838.00		7.4	VOH	M	93
R	Dra	min	58976.00		12.2	VOH	M	111
S	Dra	max	58725.00		8.7	VOH	SRB	76
S	Dra	min	58836.00		9.6	VOH	SRB	83
S	Dra	max	58942.00		8.8	VOH	SRB	79
S	Dra	min	59016.00		94.0	VOH	SRB	80
Y	Dra	max	58856.00		8.7	VOH	M	53
TX	Dra	min	58694.00		8.0	VOH	SRB	59
TX	Dra	max	58763.00		7.2	VOH	SRB	68
TX	Dra	min	58836.00		7.9	VOH	SRB	46
TX	Dra	max	58911.00		7.2	VOH	SRB	75
CZ	Dra	max	58942.00	:	10.1	VOH	M	45
R	Gem	max	58909.00		7.4	VOH	M	59
R	Gem	max	58549.00		7.4	NMN	M	16
R	Gem	max	58921.00		7.2	NMN	M	13
T	Gem	max	58796.00		8.2	NMN	M	9
SS	Gem	min	58535.00		8.9	NMN	RVA	9
SS	Gem	min	58579.00		9.4	NMN	RVA	8
SS	Gem	min	58895.00		9.1	NMN	RVA	11
SS	Gem	min	58932.00		9.4	NMN	RVA	9
ST	Gem	max	58822.00		9.7	VOH	M	32
ZZ	Gem	max	58916.00		9.2	VOH	M	41
ZZ	Gem	max	58917.00		8.6	NMN	M	20
S	Her	max	58847.00		7.0	VOH	M	49
T	Her	max	58805.00		8.5	VOH	M	28
T	Her	min	58885.00		11.9	VOH	M	38
T	Her	max	58965.00		7.7	VOH	M	59
U	Her	min	58573.00		12.1	VOH	M	82
U	Her	max	58755.00		7.4	VOH	M	96
W	Her	max	58777.00		8.2	VOH	M	59
W	Her	max	58993.00		8.1	VOH	M	53
W	Her	max	59046.00		7.7	NMN	M	10
X	Her	max	58742.00		5.9	VOH	SRB	42

Variable		Ext	HJD 24+	U	Mag	Obs	Type	n
RS	Her	max	58762.00		8.0	VOH	M	39
RS	Her	max	58983.00		7.9	VOH	M	64
RU	Her	max	58973.00		7.9	VOH	M	91
RU	Her	max	58969.00		7.6	NMN	M	21
SX	Her	min	59007.00		8.9	SM	SRD	28
SX	Her	max	58954.00		8.2	VOH	SRD	58
SX	Her	min	59012.00		8.7	VOH	SRD	53
SX	Her	max	59045.00	:	8.3	VOH	SRD	35
AC	Her	min	58725.01		8.1	SM	RVA	17
AC	Her	max	58740.01		7.1	SM	RVA	13
AC	Her	min	58763.01		7.8	SM	RVA	10
AC	Her	min	58805.00		8.4	SM	RVA	9
AC	Her	min	58952.99		8.1	SM	RVA	20
AC	Her	min	58988.00		7.8	SM	RVA	15
G	Her	min	59015.00		5.2	SM	RRAB	30
R	Hya	min	58931.99		8.1	SM	M	52
RT	Hya	max	58780.00		7.2	SM	SRB	22
S	Lac	max	58721.00		7.9	VOH	M	49
S	Lac	max	58966.00		8.4	VOH	M	41
R	Leo	max	58528.00		5.5	DMT	M	22
R	Leo	max	58838.00		5.6	VOH	M	101
S	Leo	max	58924.00		10.7	VOH	M	28
R	LMi	max	58998.00	:	7.5	VOH	M	55
R	Lyn	max	58746.00		7.8	VOH	M	68
W	Lyr	max	58843.00		7.9	VOH	M	40
W	Lyr	min	58949.00		12.5	VOH	M	67
W	Lyr	max	59047.00		8.2	VOH	M	63
U	Mon	min	58843.00		6.4	SM	RVB	32
U	Mon	min	58884.00		6.8	SM	RVB	15
U	Mon	min	58930.99		6.4	SM	RVB	16
U	Mon	min	58884.00		6.3	VOH	RVB	35
U	Mon	max	58912.00		5.7	VOH	RVB	35
U	Mon	min	58933.00		6.3	VOH	RVB	35
X	Mon	max	58798.00		7.5	SM	SRA	33
X	Mon	min	58889.00		9.4	SM	SRA	23
X	Oph	min	58704.00		8.5	VOH	M	82
X	Oph	min	59013.00		8.6	VOH	M	91
Z	Oph	max	58755.00		8.8	VOH	M	57
Z	Oph	max	59041.00		7.7	NMN	M	10
U	Ori	min	58863.00		13.2	VOH	M	64
Y	Ori	max	58916.00		10.1	VOH	M	13
BK	Ori	max	58804.00		10.3	VOH	M	48
BK	Ori	max	58855.00		10.3	VOH	M	48
BK	Ori	max	58519.00		8.8	NMN	M	19
BK	Ori	max	58841.00		9.5	NMN	M	21
CT	Ori	min	58505.00		10.6	NMN	RV:	5
CT	Ori	min	58538.00		10.9	NMN	RV:	6
Z	Peg	max	58769.00		7.9	NMN	M	11
AK	Peg	max	58382.00		8.9	NMN	SRA	8
AK	Peg	max	58769.00		8.8	NMN	SRA	14
EZ	Peg	max	58349.00		9.4	NMN	NL:	5
BETA	Per	min	59106.01			SPI		12
R	Per	max	58813.00		8.8	VOH	M	42
U	Per	max	58737.00		8.4	VOH	M	126
U	Per	max	58826.00		8.3	VOH	M	126
U	Per	min	58962.00		11.2	VOH	M	119
X	Per	min	58535.00		6.6	NMN	GCAS+XP	16
Y	Per	min	58895.00		9.9	VOH	M	113
Y	Per	max	58983.00	:	9.1	VOH	M	47
R	Sge	min	58957.99		10.4	SM	RVB	15

Variable		Ext	HJD 24+	U	Mag	Obs	Type	n
R	Sge	max	58976.00		9.1	SM	RVB	17
R	Sge	min	59031.00		10.1	SM	RVB	15
RV	Sco	max	58964.68			SM	DCEP	54
R	Sct	min	58725.00		7.6	DMT	RVA!	16
R	Sct	min	58935.99		5.8	SM	RVA	23
R	Sct	min	59007.00		6.9	SM	RVA	23
R	Sct	min	58719.00		7.5	VOH	RVA	82
R	Sct	min	59009.00		7.0	VOH	RVA	36
R	Sct	min	58567.00		6.3	NMN	RVA	5
R	Sct	max	58639.00		5.2	NMN	RVA	8
R	Sct	min	58709.00		7.6	NMN	RVA	7
R	Ser	max	58637.00		6.6	DMT	M!	10
R	Ser	max	58991.00		5.9	SM	M	28
R	Ser	max	58638.00		6.4	VOH	M	67
R	Ser	max	58986.00		6.3	VOH	M	81
R	Tau	max	58873.00		9.2	VOH	M	28
S	Tau	max	58750.00		9.6	VOH	M	27
V	Tau	max	58778.00		9.7	VOH	M	32
V	Tau	max	59101.00		9.4	VOH	M	24
W	Tau	min	58443.00		10.9	NMN	SRB	7
W	Tau	max	58523.00		9.5	NMN	SRB	14
W	Tau	max	58783.00		9.0	NMN	SRB	9
W	Tau	min	58887.00		11.1	NMN	SRB	11
R	Tri	max	58782.00		6.5	RCR	M	31
R	Tri	max	58793.00		6.2	SM	M	17
R	Tri	max	58792.00		6.3	VOH	M	90
R	UMa	max	58542.00	:	7.2	RCR	M	23
R	UMa	min	58738.00		12.5	VOH	M	114
R	UMa	max	58845.00		7.3	VOH	M	129
R	UMa	min	59023.00		13.1	VOH	M	109
R	UMa	max	58533.00		6.8	NMN	M	15
S	UMa	max	58682.00		8.1	VOH	M	89
S	UMa	min	58786.00		11.9	VOH	M	89
S	UMa	max	58915.00		7.8	VOH	M	114
S	UMa	min	59033.00		11.9	VOH	M	111
S	UMa	max	58439.00		7.6	NMN	M	8
S	UMa	max	58912.00		7.6	NMN	M	18
T	UMa	max	58679.00		8.1	VOH	M	61
T	UMa	max	58953.00		7.6	VOH	M	90
T	UMa	max	58426.00		7.9	NMN	M	7
T	UMa	max	58947.00		7.3	NMN	M	15
Z	UMa	max	58757.00		6.9	VOH	SRB	89
Z	UMa	min	58856.00		9.8	VOH	SRB	75
Z	UMa	max	58929.00		6.7	VOH	SRB	102
Z	UMa	min	59049.00		9.5	VOH	SRB	97
RS	UMa	max	58727.00		8.9	VOH	M	50
RS	UMa	max	58993.00		9.3	VOH	M	64
RY	UMa	min	58711.00		8.1	VOH	SRB	88
RY	UMa	max	58818.00		7.1	VOH	SRB	148
RY	UMa	min	58972.00		7.9	VOH	SRB	149
RY	UMa	max	58803.00		7.2	NMN	SRB	19
RY	UMa	min	58981.00		8.3	NMN	SRB	22
VX	UMa	max	58824.00		10.8	VOH	M	14
S	UMi	min	58715.00		11.8	VOH	M	126
S	UMi	max	58857.00		8.6	VOH	M	157
S	UMi	min	59050.00		11.7	VOH	M	126
S	UMi	max	58542.00		8.2	NMN	M	13
S	UMi	max	58871.00		8.1	NMN	M	20
S	UMi	max	58881.00	:	8.1	NMN	M	25

Variable		Ext	HJD 24+	U	Mag	Obs	Type	n
U	UMi	max	58665.00		8.2	VOH	M	134
U	UMi	min	58883.00		11.2	VOH	M	166
U	UMi	max	59032.00		8.0	VOH	M	115
U	UMi	min	58560.00		11.0	NMN	M	16
U	UMi	max	58657.00	:	7.8	NMN	M	12
U	UMi	min	58859.00		11.2	NMN	M	17
V	UMi	min	58752.00		8.4	VOH	SRB	63
V	UMi	max	58786.00		7.9	VOH	SRB	63
V	UMi	min	58821.00		8.3	VOH	SRB	63
R	Vir	max	58983.00		6.4	SM	M	18
R	Vir	max	58836.00		6.3	VOH	M	16
R	Vir	min	58907.00		11.8	VOH	M	52
R	Vir	max	58987.00		6.5	VOH	M	54
S	Vir	max	58984.00		7.4	VOH	M	36
V	Vir	max	58907.00		9.8	VOH	M	20
R	Vul	max	58717.00		8.3	VOH	M	35
R	Vul	max	58998.00		8.3	VOH	M	37
V	Vul	min	58680.00		9.3	SM	RVA	19
V	Vul	min	58757.01		9.2	SM	RVA	10
V	Vul	min	58832.00		9.8	SM	RVA	12
V	Vul	min	58941.99		8.8	SM	RVA	16
V	Vul	min	58982.00		9.4	SM	RVA	23
V	Vul	max	58999.00		8.3	SM	RVA	12
V	Vul	min	58757.00		9.7	VOH	RVA	15
V	Vul	min	59057.00		9.9	VOH	RVA	14
V	Vul	max	58278.00		8.4	NMN	RVA	5
V	Vul	min	58298.00		9.5	NMN	RVA	5
V	Vul	max	58349.00		8.2	NMN	RVA	7
V	Vul	min	58376.00		8.9	NMN	RVA	9
V	Vul	max	58402.00		8.2	NMN	RVA	5
V	Vul	min	58528.00		9.5	NMN	RVA	5
V	Vul	max	58545.00		8.2	NMN	RVA	5
V	Vul	max	58617.00		8.1	NMN	RVA	5
V	Vul	min	58746.00		9.0	NMN	RVA	7
BD	Vul	min	58703.00		12.0	VOH	M	84
BD	Vul	max	58939.00		9.3	VOH	M	94

Observer

DMT	Dumont, Michel	Bailleau lEveque F
NMN	Neumann, Joerg	Leipzig
RCR	Rätz, Kerstin	Herges-Hallenberg
SM	Sturm, Arthur	Saarburg
SPI	Spiess, Wolfgang	Ertingen
VOH	Vohla, Frank	Altenburg

Remarks:

Type taken from the GCVS-Catalog[3] or from the observer (!)

References:

[1] BAV Services for Scientists, 2013, `http://www.bav-astro.de/sfs/index.php/`
[2] Lichtenknecker Database of the BAV, `http://www.bav-astro.de/LkDB/index.php/`
[3] Samus N.N., Kazarovets E.V., Durlevich O.V., Kireeva N.N., Pastukhova E.N.,
General Catalogue of Variable Stars: Version GCVS 5.1,
Astronomy Reports, 2017, vol. 61, No. 1, pp. 80-88 2017ARep...61...80S