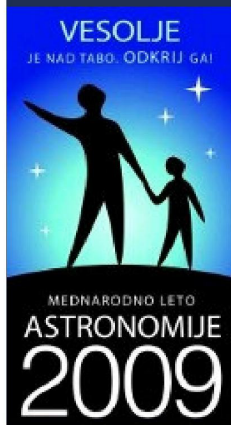




A July 28, 2009 fireball spectrum



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Video meteor observations

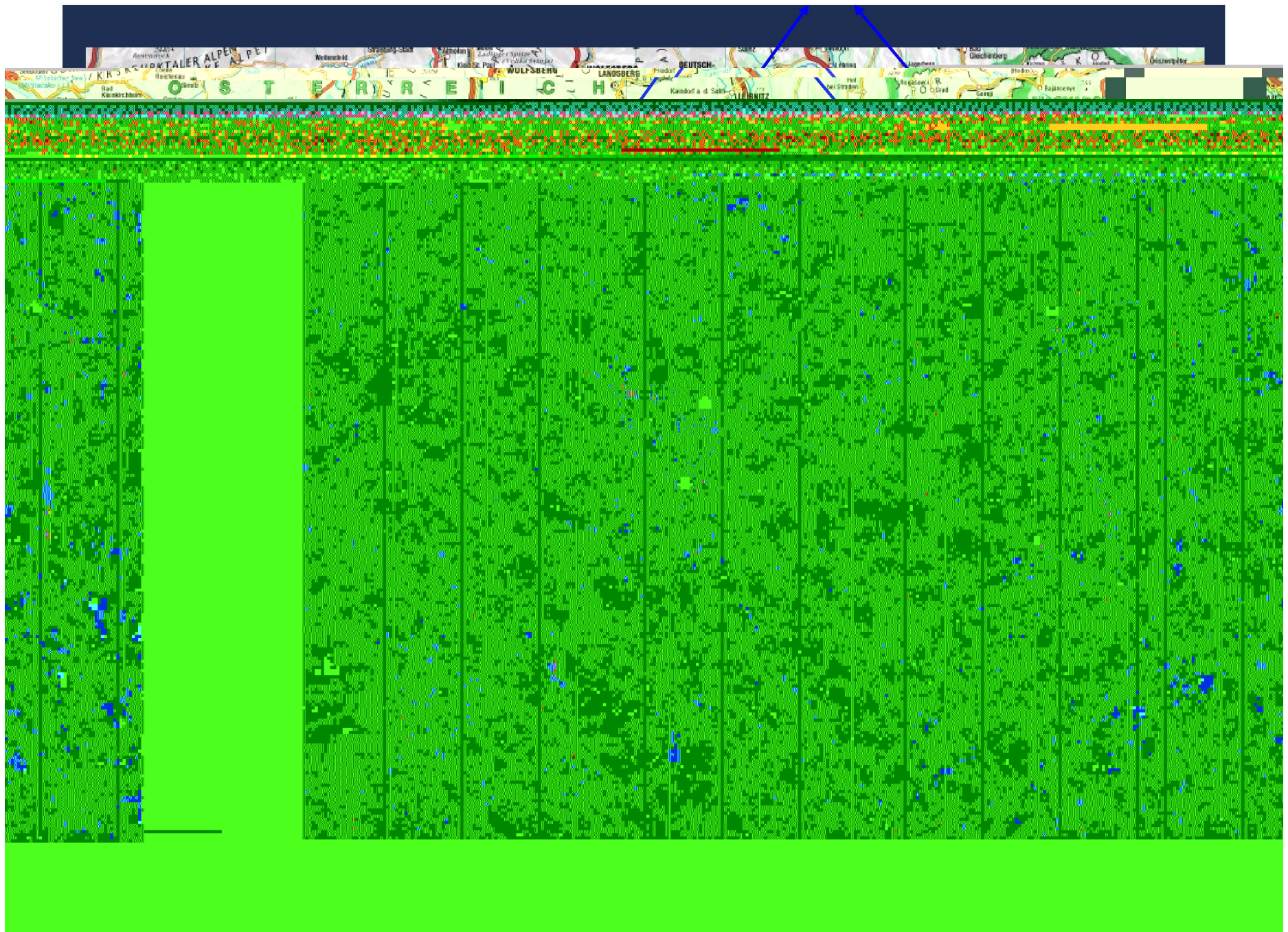
- First light during the 2002 Leonids
- Regular observations since 2003
- First tests with spectroscopic cameras at MART 2008
- Today: 6 cameras, 2 equipped with diffraction gratings



Video meteor observations

- Cameras: Mintron 12V6-EX (also V1-EX and V1)
- Lens: 3.8-mm to 8-mm f/0.8
- Recognition: MetRec and UFOCapture



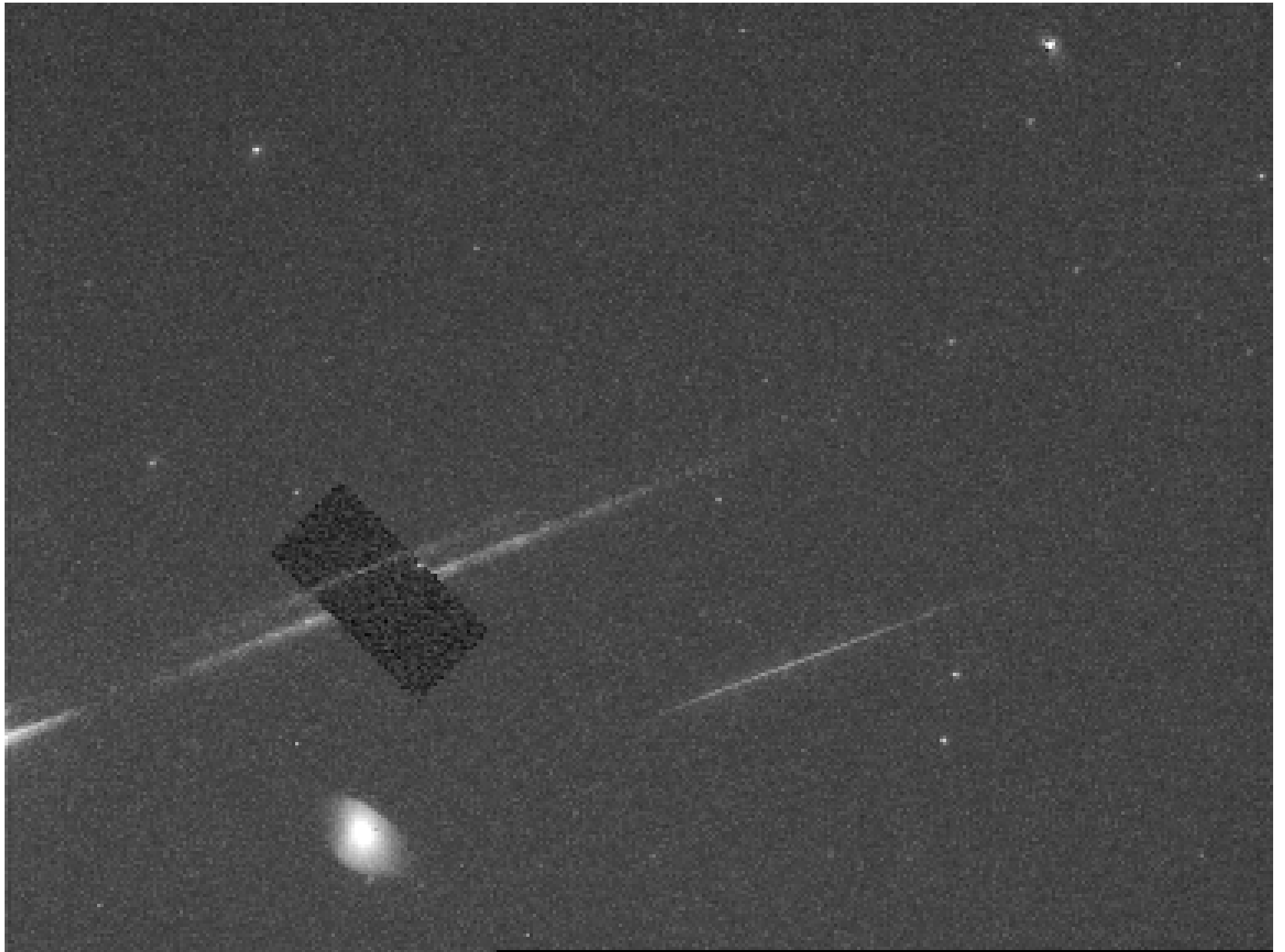


Video spectral observations

- SMETKA – spectroscopic video camera prototype
- Diffraction grating 1000 l/mm
- First tested during Perseids 2008: 11 spectra



2008 august 12, 02^h17^m45^s UT

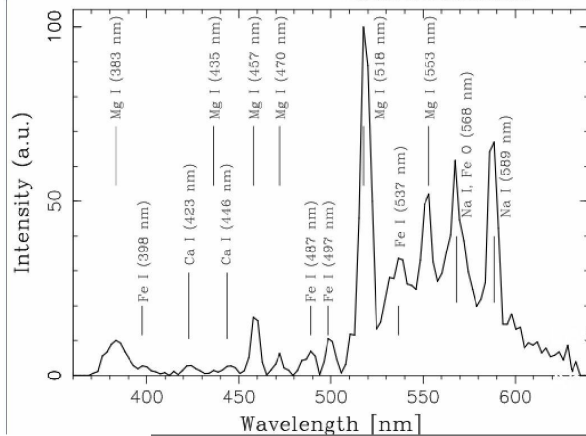
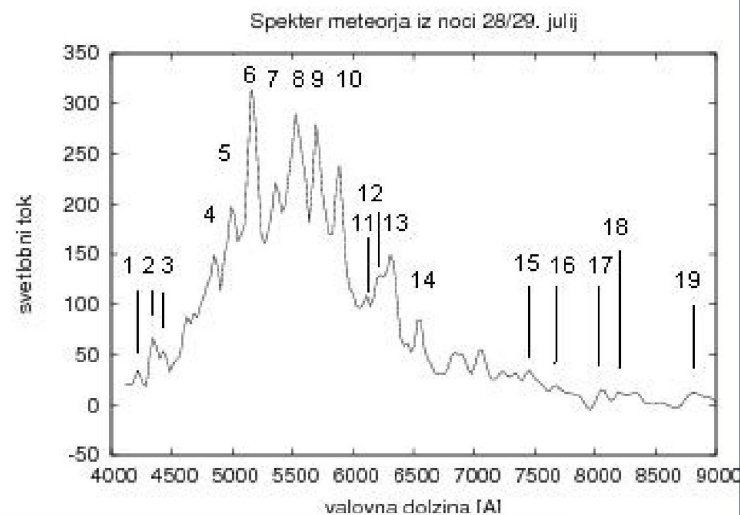


2009 July 28 fireball detection

- Time: 2009 July 28, 22h59m39s UT
- Brightness: ~ -7
- Very low in the SE sky



The spectrum



mid persistent train spectrum

S,
Proc. IMC 2004 Varna

	Element	$\lambda_{teor}(A)$	$\lambda_{izm}(A)$
1	CaI	4227	4232
2	MgI	4352	4352
3	CaI	4350	4440
4	FeI	4871	4857
5	FeI	4964	4994
6	MgI	5184	5166
7	FeI	5371	5366
8	MgI	5528	5529
9	NaI	5680	5692
10	NaI	5890	5892
11	CaI	6122	6110
12	CaI	6201	6218
13	MgI	6319	6309
14	CaI	6573	6572
15	NI	7467	7462
16	KI	7665	7670
17	SiI	8027	8061
18	NaI	8183	8197
19	MgI	8807	8805

Conclusions

- Spectrum very similar to that of persistent trains of the Leonids (Abe S, Proc. IMC 2004 Varna):
 - many metal lines (Mg, Na, Ca, Fe), atmospheric gas lines almost absent
- Weak emission above 650 nm, possibly due to low elevation of the fireball
- Spectroscopic video camera now in regular operation, recording every clear night

