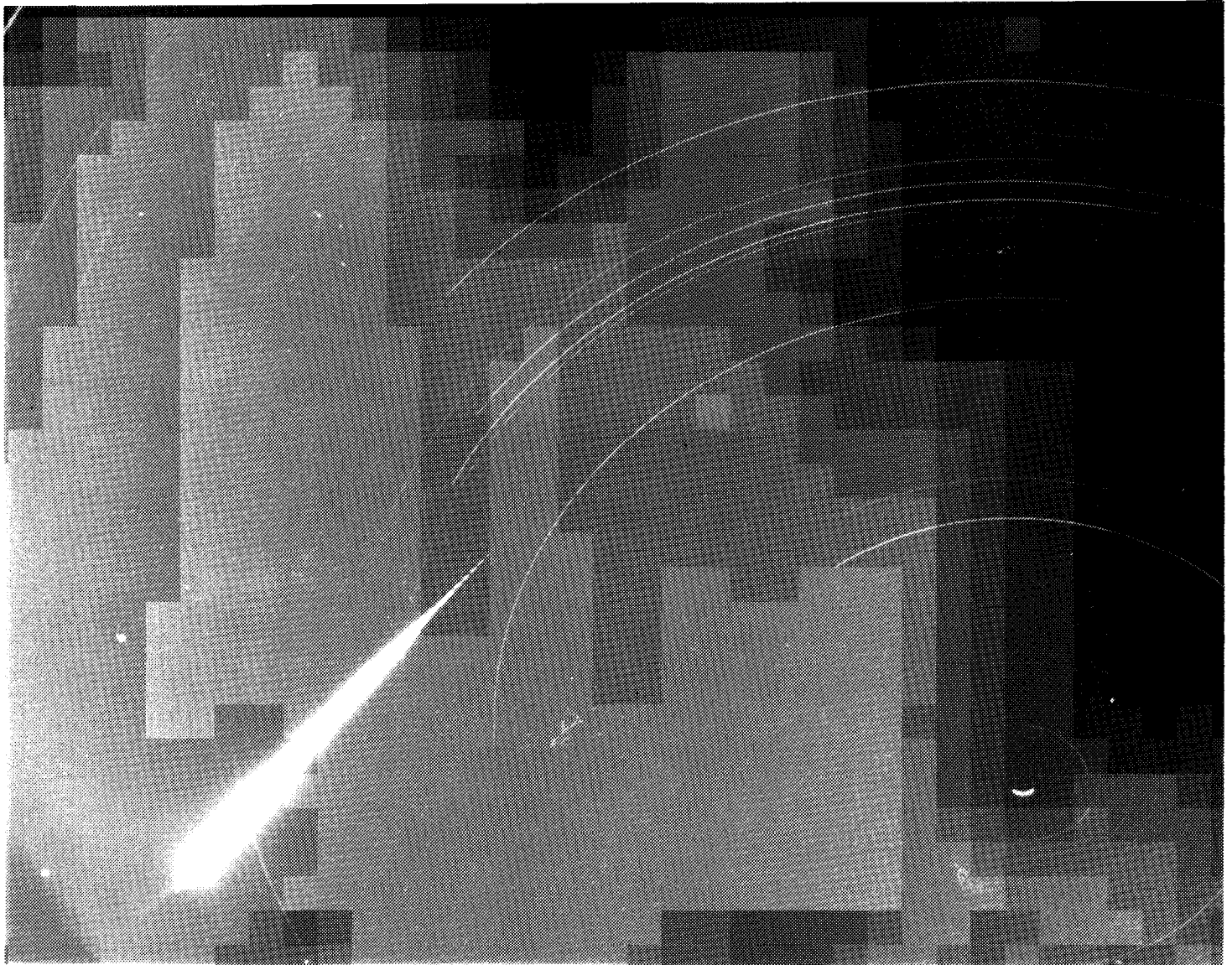


## Wow . . .

Pavel Spurny, Jiri Borovicka en Zdenek Ceplecha \*

15 April 1992



De foto hierboven toont een opname van vuurbol EN 070591 in Noordwestelijke richting vanuit station EN-15 te Telč met een vast fish-eye camera. Zeiss Distagon f/3.5-30 mm.

De vuurbol had een absolute magnitude van  $-18$  en zette de gehele hemel in het licht. De vuurbol verscheen op 7 mei 1991 om  $23^{\text{h}}03^{\text{m}}$  UT (8 mei  $1^{\text{h}}03^{\text{m}}$  zomertijd) boven Tsjecho-Slowakije. Drie Tsjechische stations van het Europees Netwerk legden de vuurbol vast.

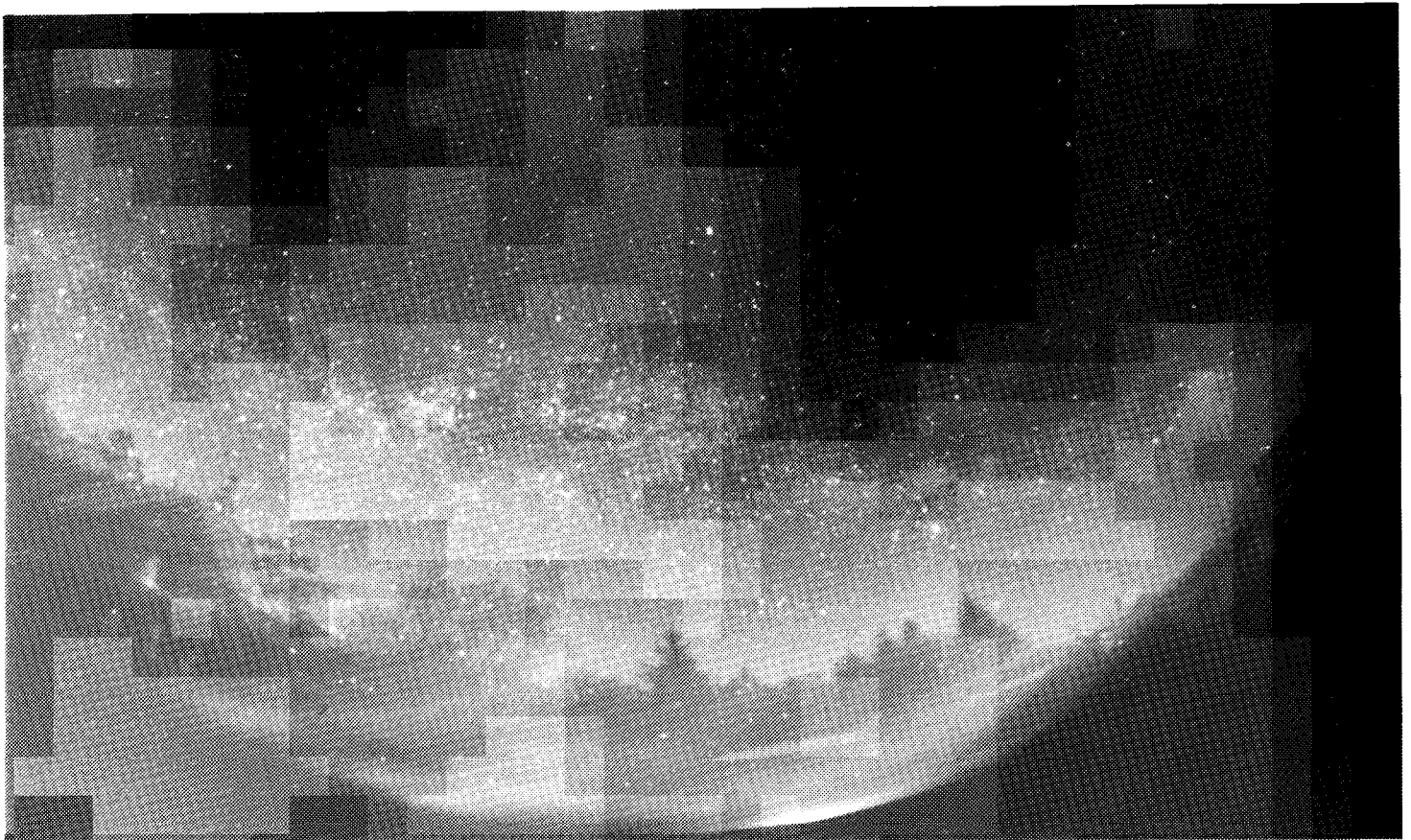
De vuurbol was zó helder, dat hij een deel van het landschap *infilste* op de met de sterren meedraaiende fish-eye camera te Ondřejov! Merk op, hoe de bomen, de gebouwen van de sterrenwacht en het huisje links scherp staan afgebeeld in de sterren. De voorplaat van dit nummer van Radiant toont het spectrum van deze vuurbol, waarin honderden lijnen zichtbaar zijn. De resolutie van dit spectrum bedraagt  $2.2$  nm/mm.

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## English summary

A very bright fireball of  $-18$  maximum absolute magnitude was photographed by 3 Czech stations of the European Network. The fireball travelled a 83 km luminous trajectory in 5.2 seconds and terminated its light at the extremely low height of 16 km, well below the maximum deceleration point, which coincides with the maximum brightness. At the Ondřejov Observatory, two spectral records with dispersions from 67 to 22 angstroms/mm and containing hundreds of lines in the region 3600 – 6700 angstroms were also obtained. This article presents orbital and trajectory data. A multiple meteorite fall is quite certain and spectral records point to a stony meteorite. The strongest radiators are atomic : Fe, Mg, Ca, Na, Mn, Cr and Ti; ionized: Ca and Si ; molecular : Fe-oxide and Al oxide. The impact of the biggest fragments is west of Benesov u Prahy. Smaller fragments could also be recovered SE of the computed impact area. Most of the impact area is covered with forests. Thus the favorable circumstances of almost vertical fireball trajectory and only mild stratospheric and tropospheric winds is hindered by the unfavorable countryside.

This fireball closely resembles the Příbram fireball, the first photographically documented meteorite fall. All activities connected with the search of meteorites are organized by the Ondřejov Observatory, Czechoslovak Academy of Sciences.



	Begin	Maximum	Terminal
V (km/s)	21.086	12.7	2.
Height (km)	97.723	25.6	16.046
$\phi$ ( $^{\circ}$ )	49.6529 N	49.76 N	49.7717 N
$\lambda$ ( $^{\circ}$ )	14.6411 E	14.61 E	14.6031 E
Abs. Magn.	-3.5	-18.5	0.0
Photo. mass (kg)	1500	2000	(10.)
$Z_R$	$9^{\circ}.40$	-	$9^{\circ}.52$
Fireball type :	I (II not excluded)		

Table 1: EN 070591 : Trajectory data

Radiant (1950.0)	Observed	Geocentric	Heliocentric
RA	228 $^{\circ}.02$	227 $^{\circ}.02$	—
DECL	40 $^{\circ}.57$	39 $^{\circ}.85$	—
$\lambda$	—	—	22 $^{\circ}.89$
$\beta$	—	—	37 $^{\circ}.320$
$V_{\infty}$ (km/s)	21.086	17.896	37.320

Table 2: EN 070591 : Radiant data

a (AU)	2.428	$\omega$	218 $^{\circ}.65$
e	0.6192	$\Omega$	46 $^{\circ}.3145$
q (AU)	0.9246	i	23 $^{\circ}.70$

Table 3: EN 070591 : Orbit (1950.0)