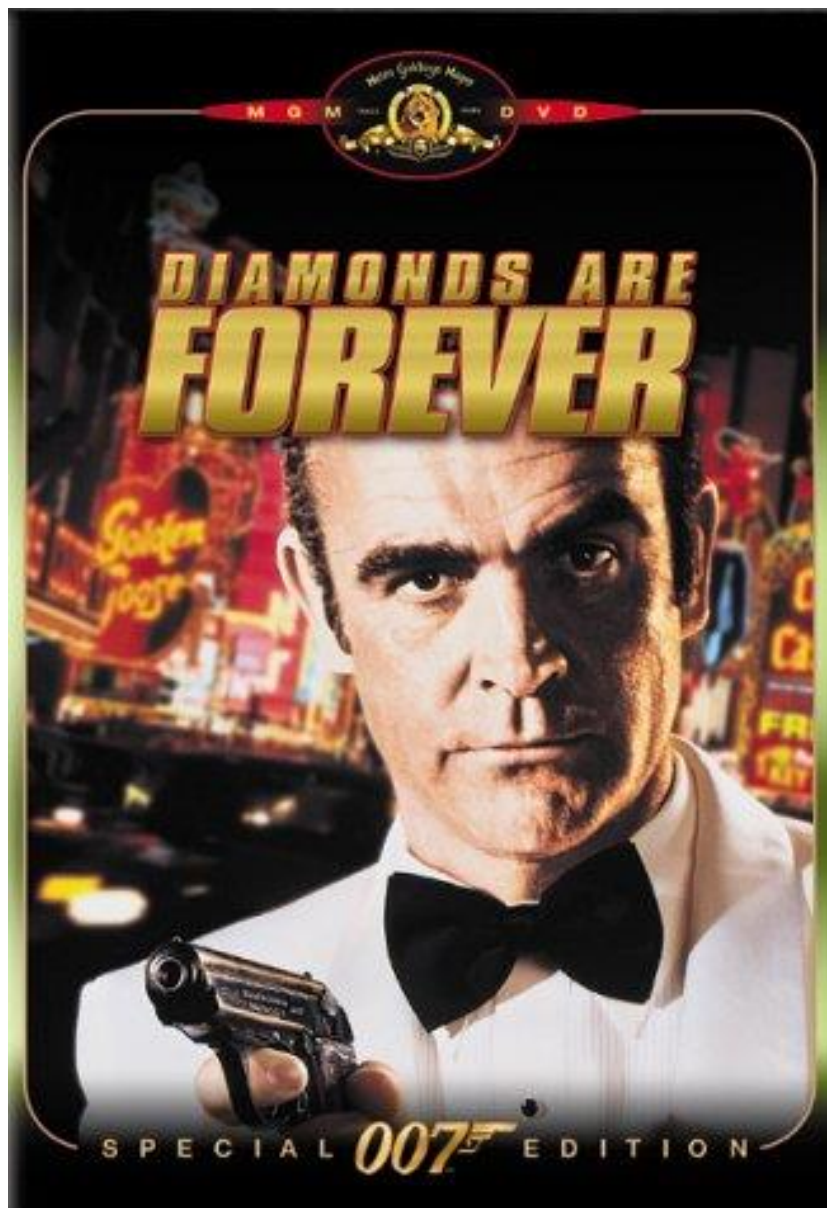
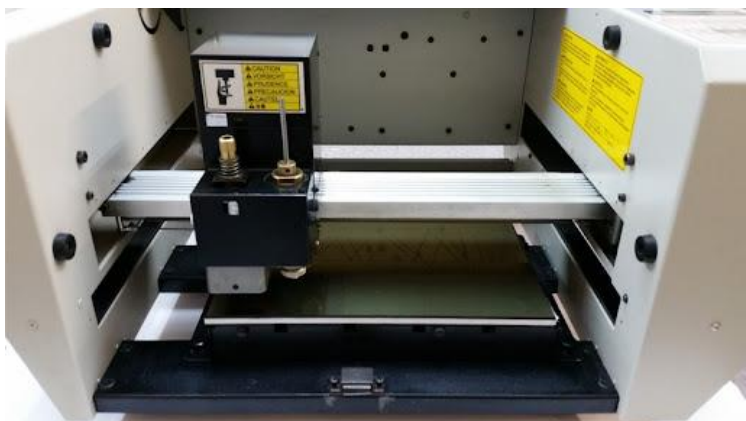


NOT





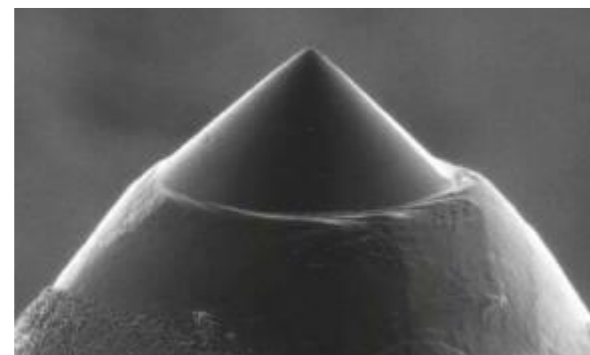
**Roland CAMM PNC-2300
mašina za graviranje**



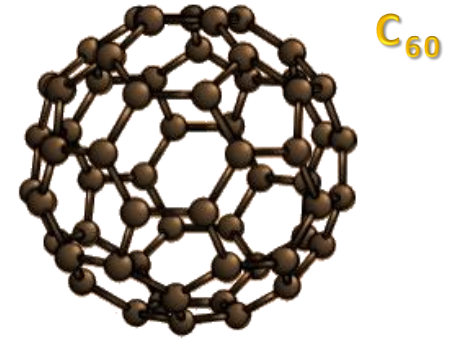
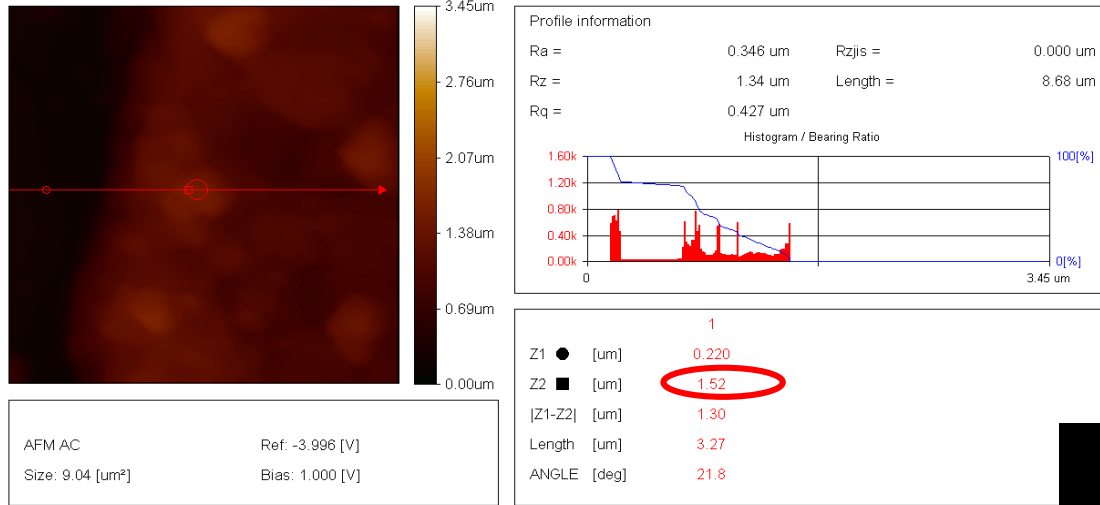
**Rezni alat sa dijamantskim
mono kristalom**



Glodalo sa dijamantskim vrhom



MIKRO OBRADA I KARAKTERIZACIJA – METROLOGIJA I KARAKTERIZACIJA- 3

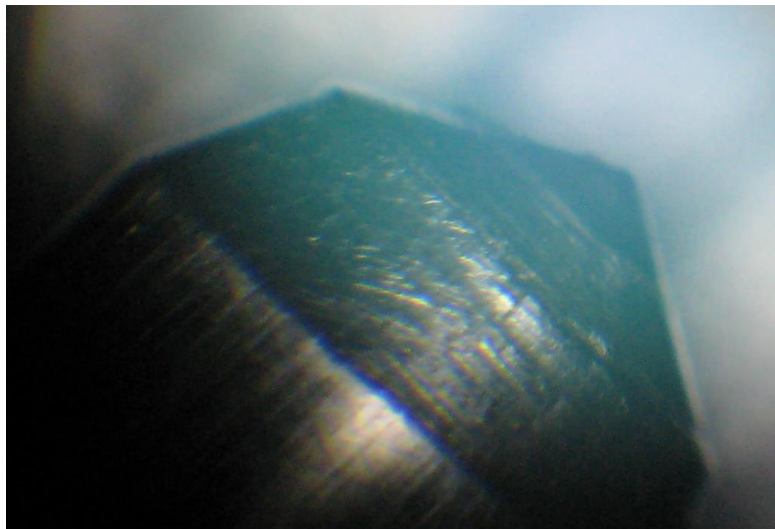


JEOL JSPM-5200

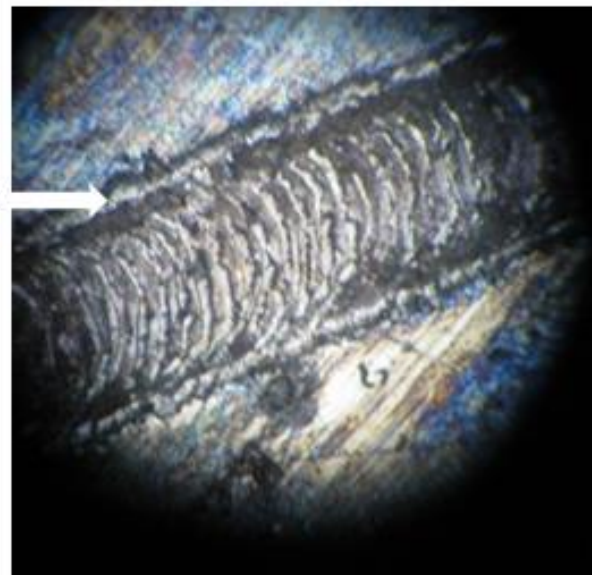
Obradljivost fulerenske prevlake na staklenoj podlozi

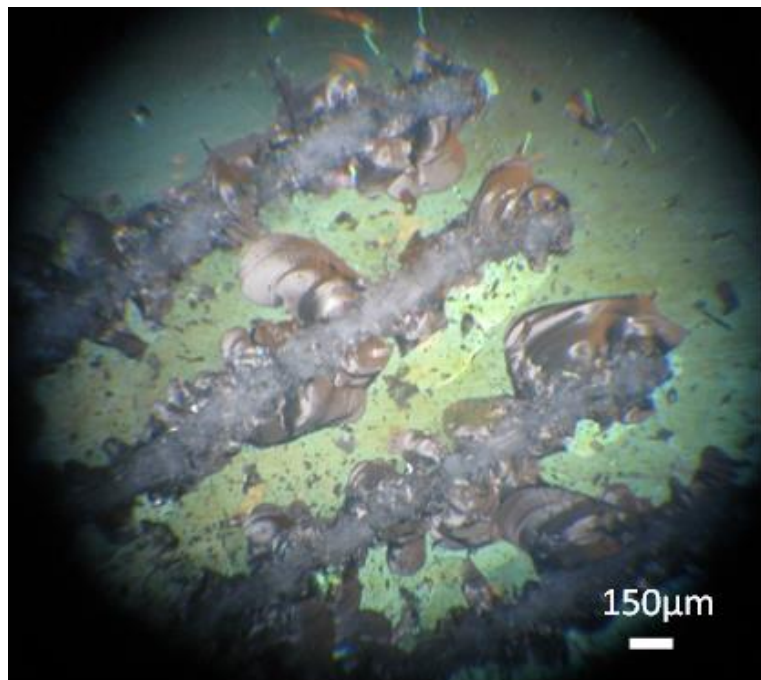
Pomoćna [mm/s]	z-feed [mm/s]	n [rev/min]			
1	1	5000	10000	15000	off
1	30				
1	60				
15	1				
15	30				
15	60				
30	1				
30	30				
30	60				





KEYENCE VHX-100
Series Digital
Microscope



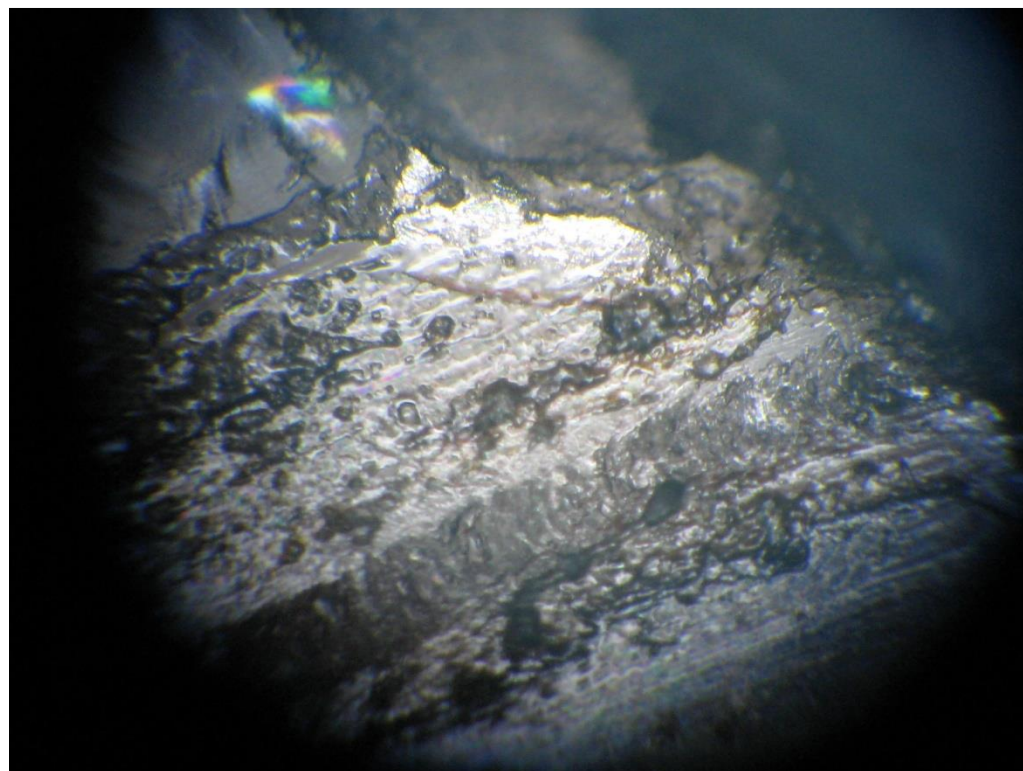


Odlamanje fulerenskog filma

Zona uticaja toplote

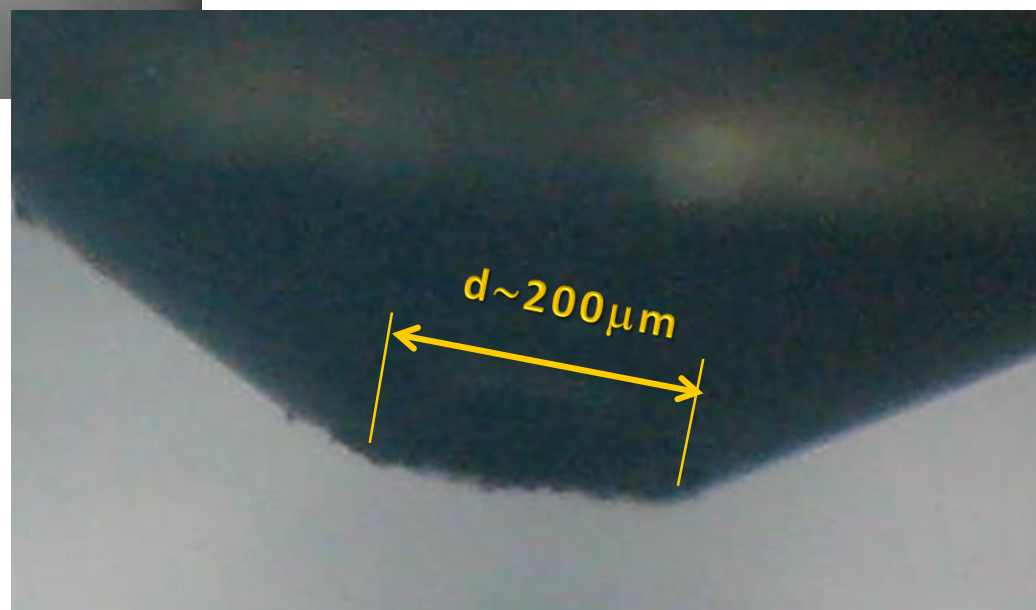


Temperatura topljenja
Staklo 500-1650°C
Dijamant 3550°C
Fuleren~1180°C

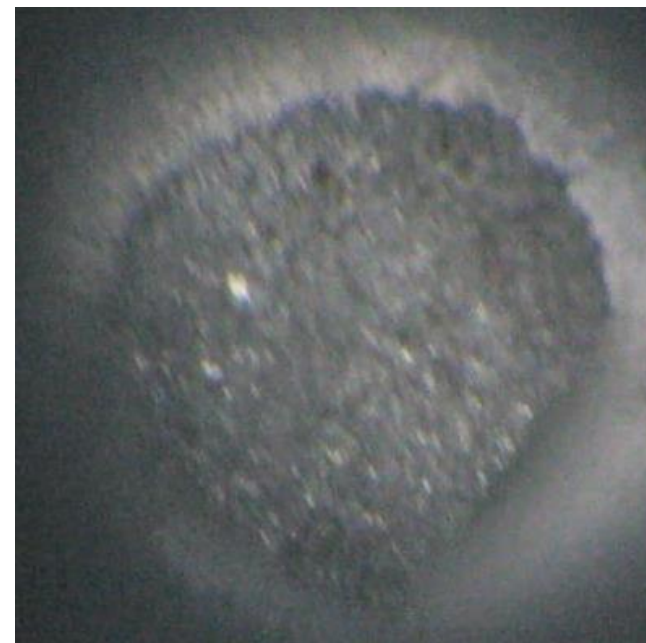
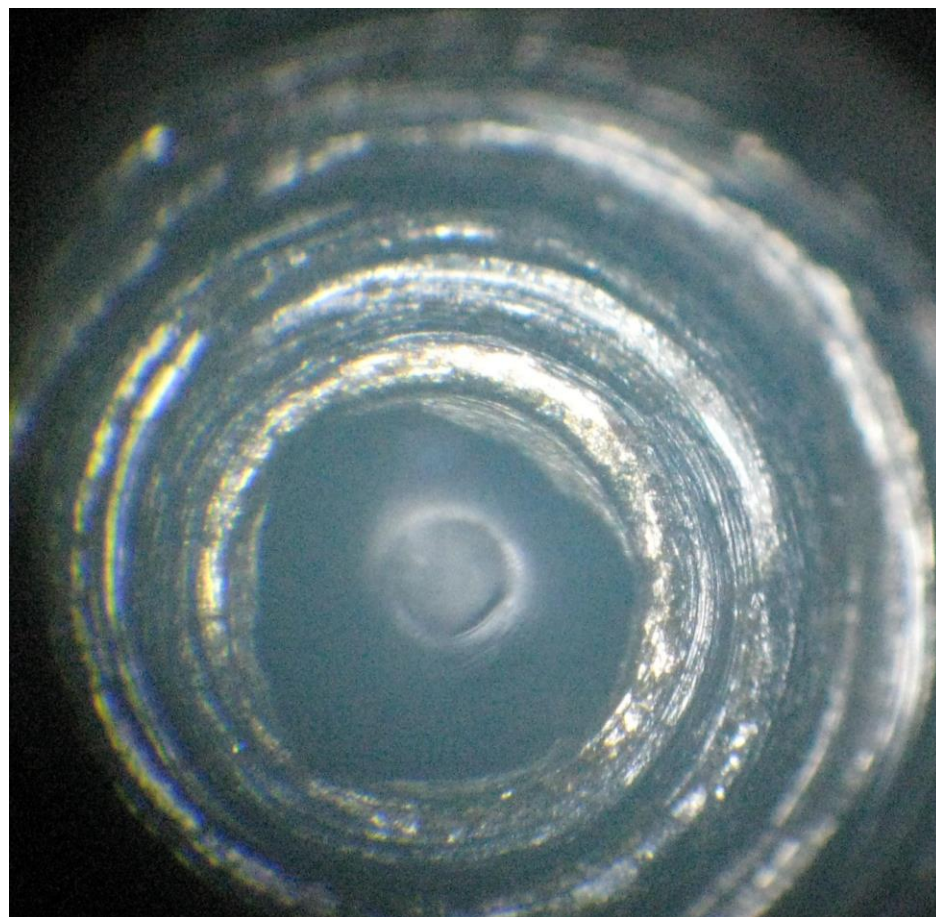




Pohabani dijamantski vrh



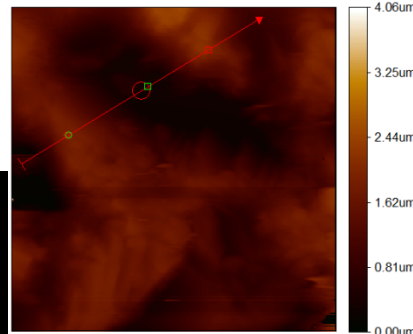
Zarubljeni deo dijamantskog vrha



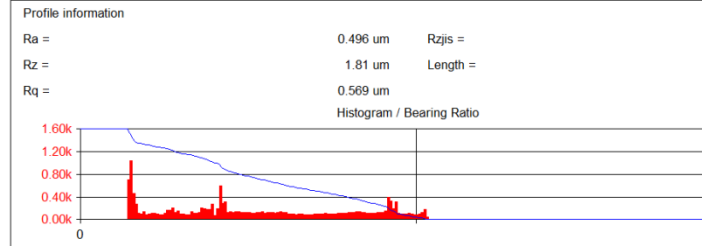
MIKRO OBRADA I KARAKTERIZACIJA – METROLOGIJA I KARAKTERIZACIJA- 9



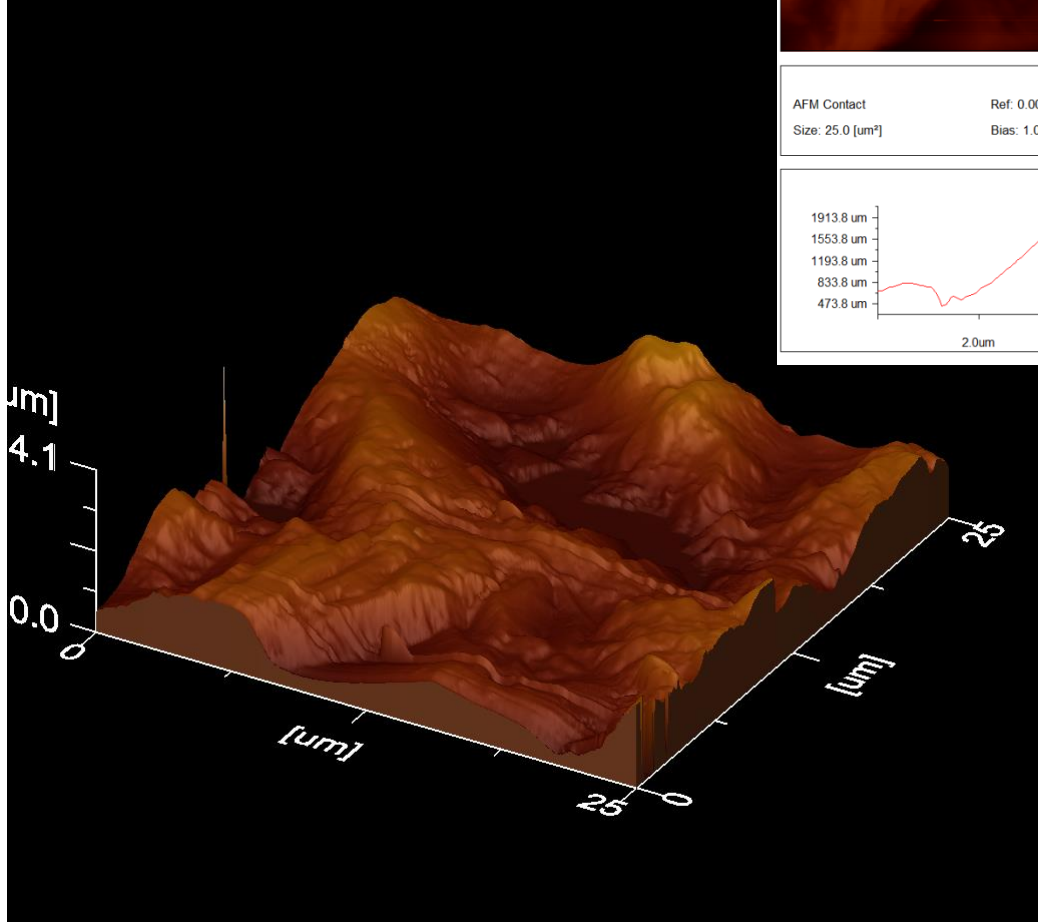
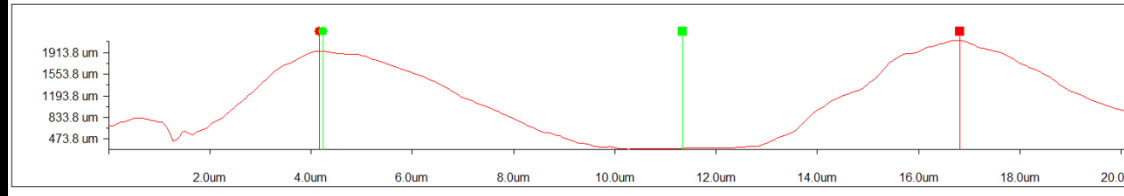
25.0 x 25.0 x 4.06 μm



AFM Contact Size: 25.0 μm^2
Ref. 0.000 [V]
Bias: 1.000 [V]



Z1 [um]	1.92	1.92
Z2 [um]	2.10	0.306
[Z1-Z2] [um]	0.179	1.61
Length [um]	12.7	7.09
ANGLE [deg]	0.779	-12.8



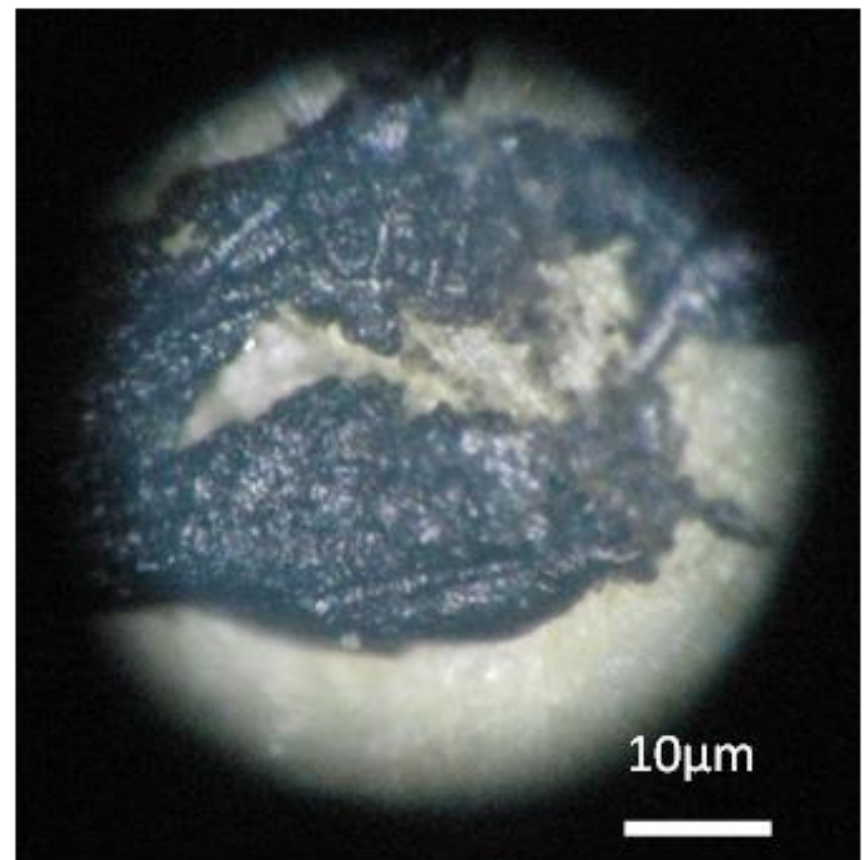
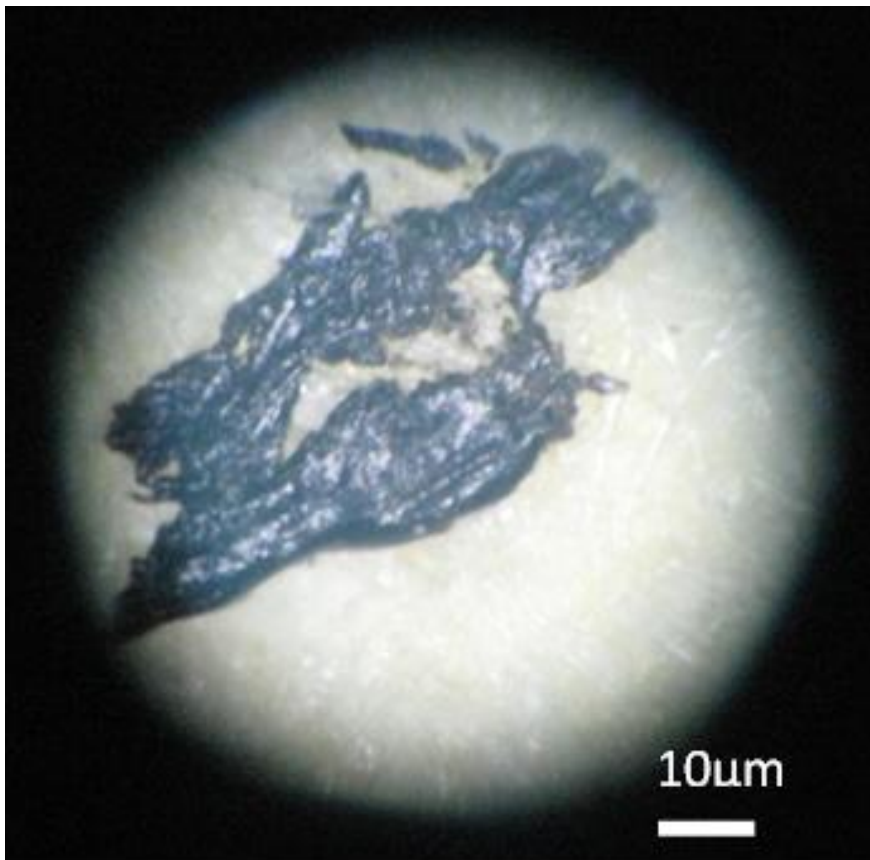
AFM 3D topografski snimak

Krater
Dubine 1.61 μm
Širine 12.7 μm



Strugotina kao gar, grafit

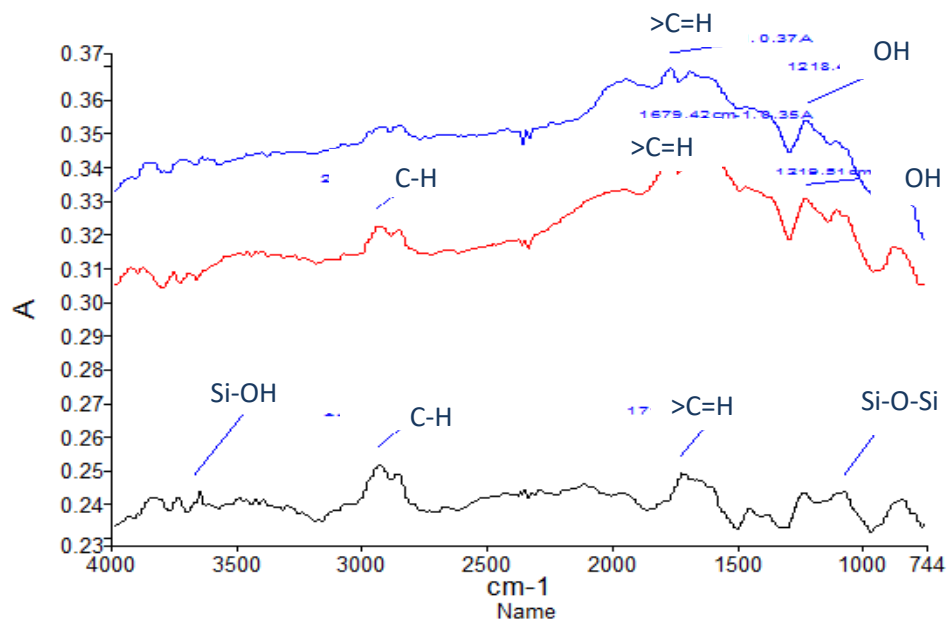
**Da li je nastala od fulerena ili
SiC Silicijum karbida ili?**



Spotlight 400 FTIR spektrometar

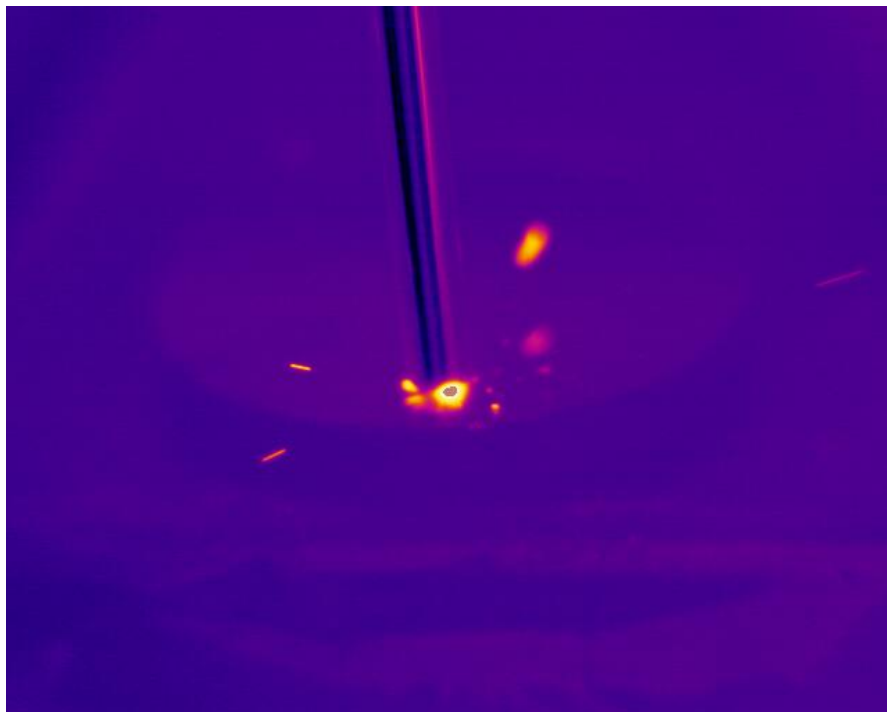


Molekul fulerena je nestao i reagovao sa O, N, H iz vazduha i sa Si i O iz stakla



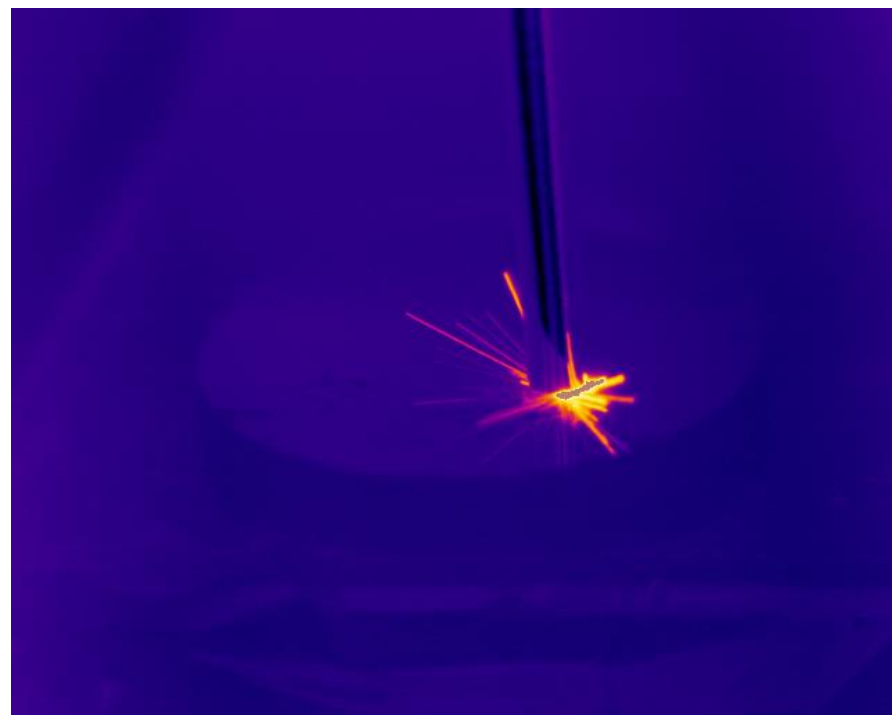
— Spectrum 1 at -714, -375 (Image[noise reduced] - [Atmospheric Correction])_1 Spectrum
 — Spectrum 2 at -733, -388 (Image[noise reduced] - [Atmospheric Correction])_1 Spectrum
 — Spectrum 3 at -745, -400 (Image[noise reduced] - [Atmospheric Correction])_1 Spectrum

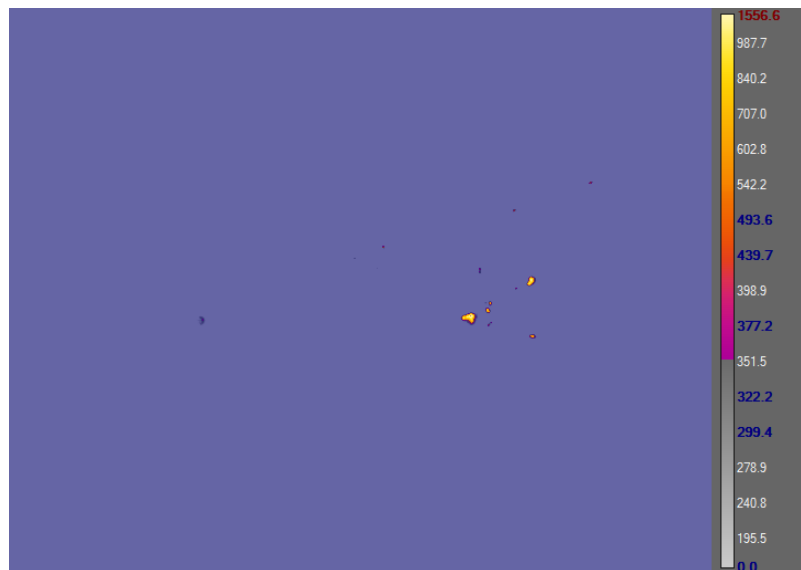
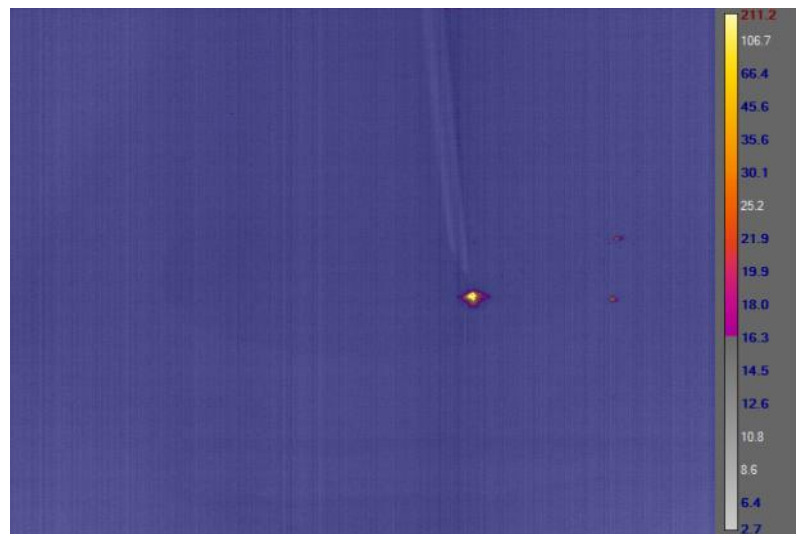
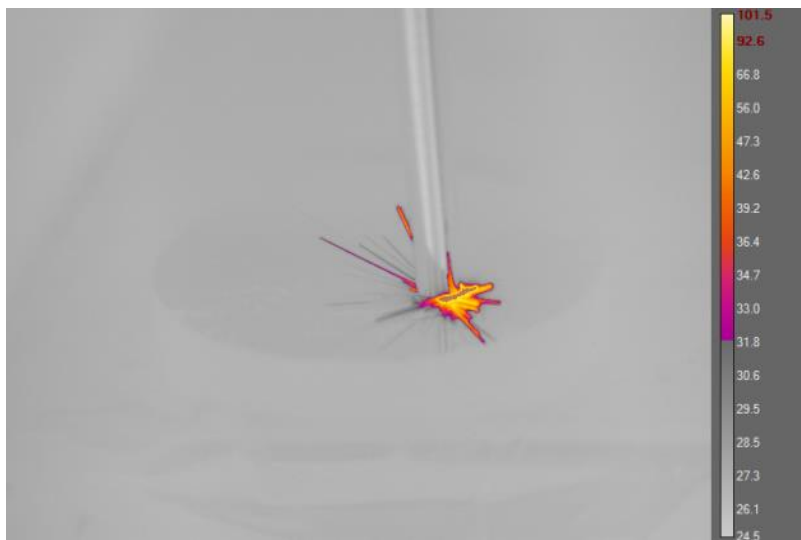
cm ⁻¹	bonds	cm ⁻¹
3655.5	OH	3600-3100
	OH	3400
	C-OH	3300
	Si-OH	3650
2935.35	C-H	2936
	>CH-	2900-2950
	>CH ₂	2935
1717.41	>C=O	1750-1700
	carboxyl and/or ester	1720
1066.5	OH	1250-1000
	>CO	1150-1050
	Si-O-Si	1065
2939.16	C-H	2936
	>CH-	2900-2950
	>CH ₂	2935
1679.42	C=O	1630
	>C=O	1650-1550
1219.51	OH	1250-100
1764.31	C=O	1740
	>C=O	1750-1700
	anhydrides	1750-1790
1218.48	OH	1250-100



**FLIR model X6540sc kamera
IR termografija velikim
brzinama**

**Softver za analizu ResearchIR
v4.0**





Temperatura u zoni rezanja

Prva temperaturna zona 101.5°C

Druga temperaturna zona 211.2°C

Treća temperaturna zona 1556.6°C

- **Obradljivost fulerena dijamantskim glodalom je loša, pogotovo kada se obrađuje grebanjem (bez obrtanja)**
- **Alat trpi intenzivno habanje usled čega je loš kvalitet brazda**
- **Brazde imaju iskrzane ivice nakon zatupljenja alata i javlja se ZUT**
- **U zoni rezanja se javljaju temperature i do 1556°C što dovodi do hemijskih reakcija između fulerena i dijamanta**
- **Hemijsko habanje alata**

Udario tuk na luk

Dijamanti nisu večiti