


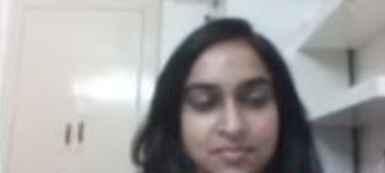













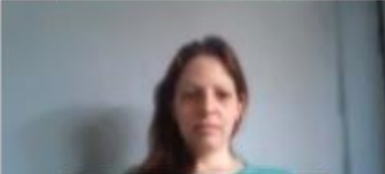





















International Conference on Sculpture Thin Films GLAD 2021



 Neeraj Khare	 Yiping	 Amit Rathore	 Anisha Pathak	 Ankit	 Prashant Mishra	 Mukesh Kumar
 Björn Miksch	 Chandrashek...	 DEEPIKA GAUR	 Desh Deepak Ga...	 Yi-Jun Jen	 Peer Fischer	 Pinki
 Dr aniruddha M...	 DR. LEELADHAR	 Dr. Sabyasachi	 Hannah-Noa Bar...	 inderjeet singh	 Samir Kumar	 sanjay
 Ishan Barman	 Jamal Khan	 JP (Cohost)	 Jyoti yadav	 Levent Trabzon	 Srikant	 Sunil Dhankh...
 Mohit	 Shashank Gah... (Host)	 Motofumi Suzuki	 Mukesh Kumar	 Mukesh Kum...	 YEPURI VENKAT...	 Yogita

Cisco Webex Meetings Meeting Info Hide Menu Bar

File Edit Share View Audio & Video Participant Meeting Breakout Sessions Help

Yiping Amish Gautam

Cisco Webex Meetings Meeting Info Hide Menu Bar

File Edit Share View Audio & Video Participant Meeting Breakout Sessions Help

Peer Fischer Yiping Agustín R. González-Elipe

Cisco Webex Meetings Meeting Info Hide Menu Bar

File Edit Share View Audio & Video Participant Meeting Breakout Sessions Help

J.P. Singh (Host, me) Jong Kyu Kim Prashant Mishra Agustín R. González-Elipe Dhruv Pratap Singh

Type of Shadowing

Self-shadowing

Mask/template shadowing

Ergodic Hypothesis is Strictly Only Valid for an Ensemble of Identical Copies

Time Avg

$$\langle \text{CDSI} \rangle_t = \lim_{t \rightarrow \infty} \frac{1}{t} \int_0^t \text{CDSI}(t') dt'$$

Ensemble Avg

$$\langle \text{CDSI} \rangle_N = \sum_i p_i \text{CDSI}_i$$

For identical copies

Novel observable

Sachs, et al. "Chiroptical Spectroscopy of a Freely Diffusing Single Nanoparticle", Nature Comm. 11, 4513 (2020)

Optical properties: Controllable refractive index (n)

- Tunable n of any evaporable material
- A great freedom in optical design!
- Conductive DBR possible
- Unprecedented low n
- Closing the refractive index gap
- Perfect antireflection coating!

Density of nuclei → porosity of film

NANHE KUMAR ...
 Nidhi Mehta
 Siddharth Rana
 SNEHA SENAPATI
 ambarish
 Dhruv Pratap Sin...
 Praveen Kum...
 Preeti
 Wendy Liu
 Yanjun Yang
 Dr. Rupali Na...
 Hannah-Noa Bar...

Participants: J.P. Singh (Host, me), Aabha, Neeraj Khare, Agustin R. González-Elipe, JP Cohost

Viewing Ibrahim Abdulhalim...

Plasmonics Allow the Nanoscale Enhancement
Limitations of Standard Optics

Ibrahim Abdulhalim

Participants (67)

Search

- J.P. Singh (Host, me)
- Ibrahim Abdulhalim
- JP Cohost
- Aabha
- Agustin R. González-Elipe
- ambarish ghosh
- Amit Rathore
- Anand Mohan Shrivastav
- Anisha Pathak
- Ankit

Mute all Unmute all

Participants: J.P. Singh (Host, me), Neeraj Khare, Daniel Gall, ambarish, Amit Rathore

Chaotic Bifurcation in GLAD

Chaos Theory:

$$Z(\delta) = Z_0 e^{\lambda \delta}$$

λ : Divergence, Lyapunov Exponent
 δ : Variable Parameter

Participants (52)

Search

- J.P. Singh (Host, me)
- Daniel Gall
- JP Cohost
- ambarish
- Amit Rathore
- Ankit
- Chandrashekhar Sharan
- CHI-JHAN-JAO
- Deepak Gaur
- Dr. Aniruddha Mondal

Mute all Unmute all

Participants: Dr. Rupali Nagar, JP Cohost, John Gibbs, Yiping

Blue light

UV light

Participants (36)

Search

- Shashank Gahlaut (Host, me)
- John Gibbs
- JP Cohost
- ambarish
- Amit Rathore
- Deepak Gaur
- Dennis_Leo
- Dr aniruddha Mondal
- Dr. Rupali Nagar
- Hannah-Noa Barad

Mute all Unmute all

Participants: Zhifeng Huang, Dr aniruddha Mondal, Dr. Rupali Nagar, Mukesh Kumar

香港浸會大學
HONG KONG BAPTIST UNIVERSITY

Chirality

(a) Chiral objects

Point Chirality

Chiral centers (Wikipedia)

Circularly Polarized Luminescence of Isolated Small Organic Molecules pp 249-272

PAGE # 8

Participants (57)

Search

- Shashank Gahlaut (Host, me)
- Zhifeng Huang
- JP Cohost
- ambarish
- Amit Rathore
- Anisha
- Ankit
- Avijit Dalal
- Chandrashekhar Sharan
- CHI-JHAN-JAO

Mute all Unmute all

Participant avatars and names: Ankit, Agustín R. González-Elípe, Mukesh Kumar, Amit Rathore, Samir Kumar, Ambarish Ghosh, Peer Fischer

Participants (52)

- Shashank Gahlaut (Host, me)
- Samir Kumar
- JP (Cohost)
- Agustín R. González-Elípe
- Ambarish Ghosh
- Amit Rathore
- Anisha Pathak
- Ankit
- Björn Miksch
- Chandrashekar Sharan

Mute all | Unmute all

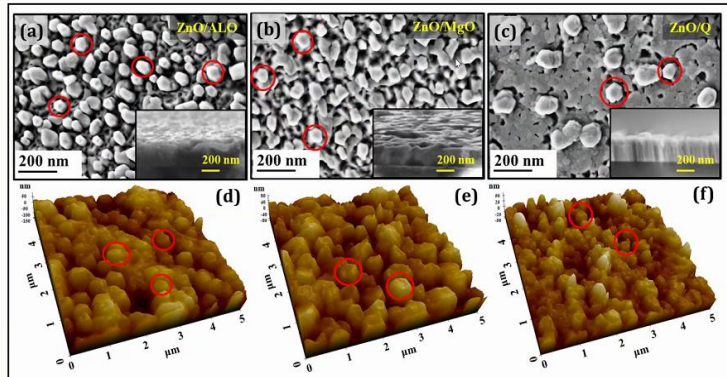
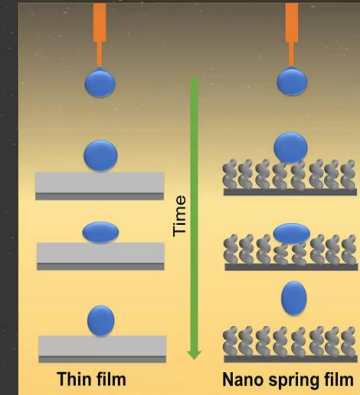


Fig. SEM (top row) and AFM (bottom row) images of ZnO nanostructures grown on Al_2O_3 (a,d), MgO (b,e) and quartz (c,f) substrates. The inset figure shows corresponding cross-section SEM images. The circles in red color indicate the hexagonal grains of the nanostructures.

A. Soni et. al, *Sensors and Actuators A: Physical* 313 (2020) 112140



Fabricated vertically standing Si nanosprings by glancing angle deposition technique.

nanostructured surfaces from the same material that has comparable static contact angles exhibit remarkably different droplet rebound dynamics.

The rebound time and coefficient of restitution were also found to be higher for Si nanosprings than vertical Si columns.

The restoring force of the nanosprings may be responsible for the rebound of the water droplet

A grid of 20 video feeds showing various participants in the conference. Some participants have their names visible at the bottom of their feeds, such as 'Srikant'.

Participant avatars and names: Zhifeng Huang, Dr. Rupali Nagar, Dhruv Pratap Singh, Agustin R. González-E...

Participants (57)
Search

Participant avatars and names: Motofumi Suzuki, Dr. Rupali Nagar, Agustin R. González-Elipe, Levent Trabzon

CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

Oblique angle deposition by magnetron sputtering and acoustic wave activation

A. García-Valenzuela,¹ A. Fakhfouri,² M. Oliva-Ramírez,¹ V. Rico-Gavira,¹ T. C. Rojas,¹ R. Alvarez,¹ S. B. Menzel,² A. Palmero,¹ A. Winkler,² A. R. González-Elipe^{1*}

1.-Nanotechnology on Surfaces and Plasma Laboratory
Institute of Materials Science of Seville (CSIC - US), Spain
<http://sincaf.icms.us-csic.es>

2.-IFW Dresden, SAWLab Saxony, Helmholtzstr. 20, 01069 Dresden, Germany

(* arge@icmse.csic.es)
Instituto de Ciencia de Materiales de Sevilla (CSIC-Univ. Sevilla)

Diapositiva siguiente
Physical Vapour Oblique Angle Deposition (OAD) of Thin Films
No hay ninguna nota.

Participants list:

- Shashank Gahlaut (Host, me)
- Agustin R. González-Elipe
- JP (Cohost)
- ambarish ghosh
- Anisha
- Ankit
- Chandrashekar Sharan
- CHI-JHAN-JAO
- Deepak Gaur
- Dennis_Leo

Mute all | Unmute all

Measurements on Nano-Columns

Sample Code	Roughness r	Solid Fraction ϕ	Calculated Contact Angles (Degrees)			Measured Contact Angles (± 2)
			Wenzel (x < X)	Cassie-Baxter (x < X)	Cassie-Baxter (x > X)	
4N	1.9434	0.0445	-	156.6	6.6	10
3N	3.6745	0.0757	-	149.3	8.7	15
2N	10.9024	0.1949	-	129.7	13.9	27

$r = 1 + \frac{2\pi bh}{L^2}$
L is the lattice constant and b and h are the radius and height of the pillars.

$\phi = \frac{\pi b^2}{L^2}$
L and b were calculated by $L = 1 + 2d$ and $b = d/2$ using the physical dimensions of columns through scaling of the SEM images

Unmute | Start video | Share | Record | Participants | Chat

Grid of participant video feeds showing various attendees in a virtual meeting room.

Agustin R. González-Elipe | Dr. Rupali Nagar | Mukesh Kumar

File Edit Share View Audio & Video Participant Meeting Breakout Sessions Help

Gouri | Ambarish Ghosh | Mukesh Kumar | JP Cohost

Participants (53)

Search

- Shashank Gahlaut (Host, me)
- Ambarish Ghosh
- JP Cohost
- Agustin R. González-Elipe
- Amit Rathore
- Anisha Pathak
- Ankit
- Björn Miksch
- Chandrashekhar Sharan
- CHI-JHAN-JAO

Mute all | Unmute all

Nanostructure applications

Colorimetric sensor
 Detection of harmful and antibiotic bacteria by Ag nanowire array
 Pristine AgNWs | Exposed AgNWs
 High Sensitivity | Low Limit of Detection

ECG electrode
 SERS substrates/Biosensors

V_0 in metal oxides

Nanomechanical properties
 Nanosprings, frictional anisotropy

Ag Deposition
 Substrate | Vapor | Source
 One-Arm Nanorods | Two-Arm Nanorods
 Sliding Measurements

Oil/Water separation
 STO Coated mesh

web.iitd.ac.in/~jpsingh

Magnetically driven nanobots

- Gradient pull: not strong enough as things become small
- Corkscrew motion like bacteria works well at low Reynolds numbers

See: *How should microrobots swim* from ETH group

The corkscrew

- ➔ Motion in bulk
- ➔ Other shapes also possible (see work from Henry Fu, Alexander Leshansky)

Unmute | Start video | Share | Record | Unmute | Start video | Share | Record | Participants | Chat