dataphysics

Understanding Interfaces

Surface & Interfacial Science Applications Center

Range of services

- *Contract measurements*
- *Demonstration testing*
- *Personalized instrument training*
- *Seminars & specialized training courses*

Welcome to the DataPhysics Instruments USA Applications Center

DataPhysics Instruments, a leading manufacturer of high-end measuring devices for studying surfaces and interfaces of solids and liquids opened its Applications Center in Charlotte, North Carolina, in 2018.

This lab was established with a goal to provide contract services for manufacturing and research clients in need of surface tension and surface energy measurements for adhesion improvement, stability measurements of emulsions and dispersions, high temperature polymer wetting studies, ultra-low interfacial tension measurements of oil/brine systems, captive bubble measurements for submerged substrate contact angle tests and other complex surface and interfacial measurements.

The extensive range of accessories for our line of instruments enables performing measurements at high temperatures, controlled humidity, and dispensing of extremely small liquid droplets as low as 30 picoliters in volume. This lab helps our customers develop measurement methods on their own samples, provides online training as well as technical support for current and prospective customers.

Our interfacial science specialist

Paul Simutis
Applications Manager
DataPhysics Instruments USA Corp.

Paul Simutis is Technical Service and Applications Manager at DataPhysics Instruments USA.

Paul has been dedicated to chemistry his entire career. Surface and interfacial science is both his work and passion.

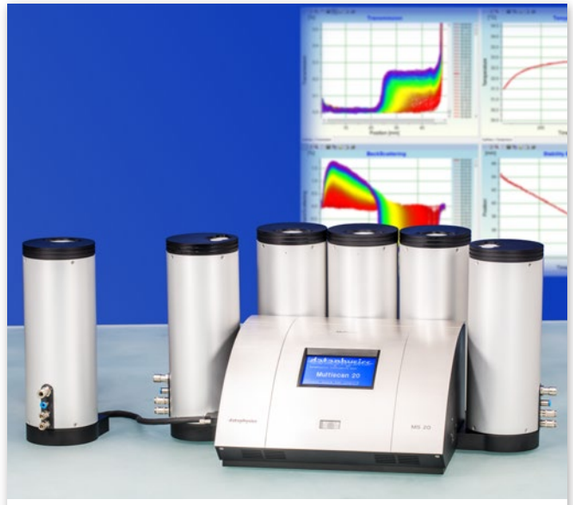
He has worked with instruments for studying surfaces and interfaces over 10 years and has helped many scientists in different companies to learn proper techniques for these measurements, understand the results of the tests, advance their projects, and has provided reliable data for contract testing services.

We encourage you to contact Paul at our Applications Center for discussion about your own project, whether it is just a question or a single measurement, a training session or a collaboration project.

determination of the surface energy using an OCA 200

high temperature surface tension measurement with a DCAT 25

measurement of ultra-low interfacial tension with a SVT 20N



dispersion stability analysis with the MultiScan MS 20

Device range

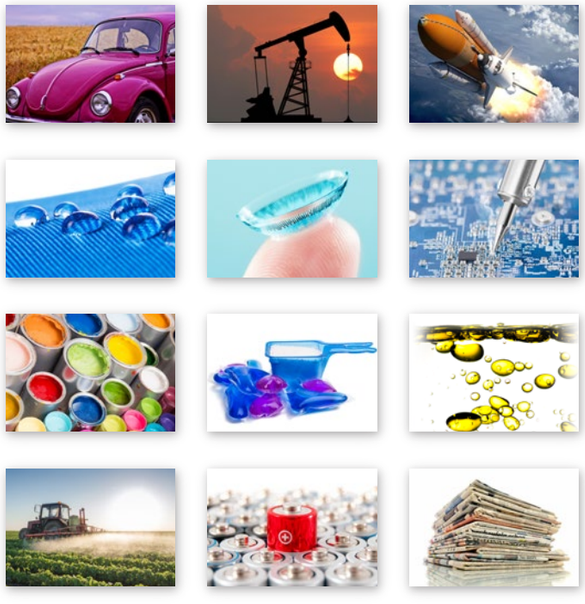
- **O**ptical **C**ontact **A**ngle measuring and drop contour analysis systems
- **D**ynamic **C**ontact **A**ngle measuring devices and **T**ensiometer
- **S**pinning drop **V**ideo **T**ensiometer
- **M**ulti**S**can dispersion stability analysis system
- **H**umidity **G**enerator and **C**ontroller

contact angle measurement in the screw threads of a dental implant

Measuring properties and measuring methods

- surface and interfacial tension
- static and dynamic contact angle
- surface energy of solids
- surface wettability
- critical micelle formation concentration (CMC)
- density of liquids and solids
- sedimentation and penetration
- surface pressure of monolayers
- force of adhesion
- surface and interfacial rheology parameters
- stability and aging analysis of liquid dispersions
- sedimentation and creaming rates
- analysis of particle merging and clustering
- determination of destabilization mechanisms

Wide range of applications

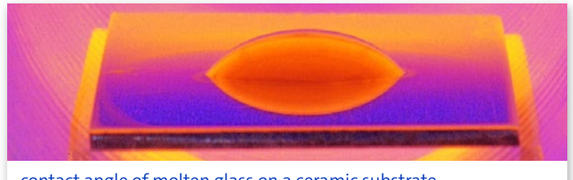


Standards

- ASTM D971
- ASTM D1331
- OECD 115
- ISO 1409
- ISO 6889
- DIN EN 14210
- ASTM D1417
- ISO 304
- ISO 6295

Measurements at the fringe of possibility

- drop volumes as low as 30 picoliters
- temperatures from -30 to 1800 °C (-22 ... 3 272 °F)
- pressure up to 750 bar (10,878 psi)
- relative humidity of 5% to 90%



contact angle of molten glass on a ceramic substrate

Contact

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