

DLSとSPMによるナノ粒子の粒子径測定

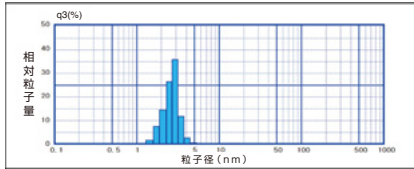
The measurement of nano-particles by DLS and SPM

試料:市販のコロイダルシリカ (SI-550、SI-45P)

Sample:commercial colloidal silica (SI-550、SI-45P)

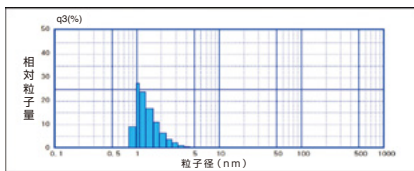
動的光散乱法 (DLS) Dynamic light Scattering method (DLS)

ラベル径 5nm Nominal diameter



品名 SI-550(0.2wt%)
Sample
ラベル径 5nm
Nominal diameter
体積平均 2.652nm
Volume mean diameter

測定試料濃液 0.2wt%

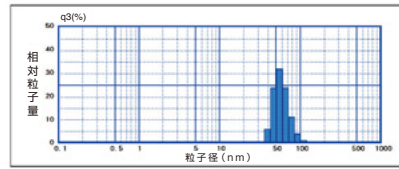


品名 SI-550(20.6wt%)
Sample
ラベル径 5nm
Nominal diameter
体積平均 1.339nm
Volume mean diameter

測定試料濃液 20.6wt%

体積換算
Volume conversion

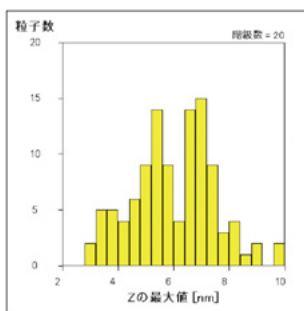
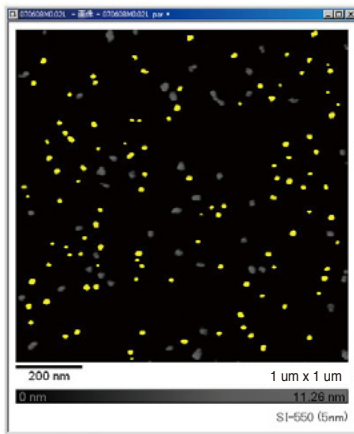
ラベル径 46nm Nominal diameter



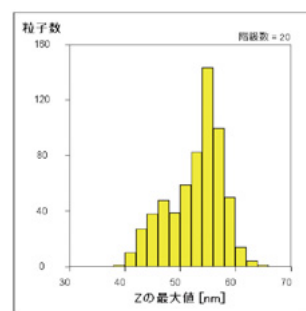
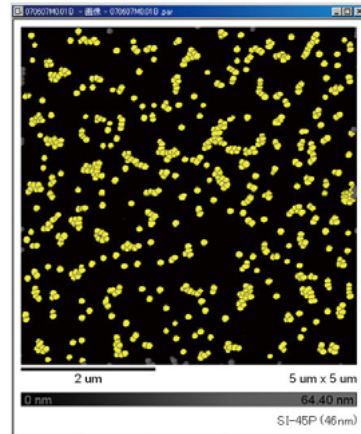
品名 SI-45P
Sample
ラベル径 46nm
Nominal diameter
体積平均 58.207nm
Volume mean diameter

体積換算
Volume conversion

プローブ顕微鏡 (SPM) Observation and Measurement of Particle Diameter by SPM



品名 SI-550
Sample
ラベル径 5nm
Nominal diameter
個数平均 6.036nm
Number mean diameter
体積平均 7.010nm
Volume mean diameter
粒子数 108
Number of particles



品名 SI-45P
Sample
ラベル径 46nm
Nominal diameter
個数平均 52.79nm
Number mean diameter
体積平均 54.02nm
Volume mean diameter
粒子数 615
Number of particles

試料:触媒化成工業株式会社製 SI-550、SI-45P
ラベル径はBET法による比表面積値からの換算値
Sample: SI-550P, SI-45P product by CATALYSTS & CHEMICALS IND.CO.,LTD.
Nominal diameter;
5 nm and 46 nm is conversion for BET specific surface area values.