Control of dispersion and aggregate size of TiO₂ nanoparticles under ultrasonic irradiation in water/ K. Sato, J. G. Li, T. Ishigaki (NIMS), H. Kamiya (TUAT)/ The dispersion and aggregate size of TiO₂ nanoparticles in aqueous suspension was controlled by adding various polyacrylic acid with different molecular weights and applying the ultrasonic irradiation into aqueous suspension. The ultrasonic irradiated and concentrated slurries which had polymer dispersants with 2100 to 30000 molecular weights showed very low viscosity and small aggregate size, compared to the ball-milled slurries. The aggregate size of slurry with 15 vol% solid fraction was almost equal to particle size determined using surface area data.

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