

### Generation of inkjet droplet of suspensions

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In this research the generation of inkjet droplet of suspensions is investigated. The suspensions (inks) were prepared by dispersing polystyrene spherical particles in a Newtonian fluid and polyvinylpyrrolidone (PVP) solutions in the Newtonian fluid. 1-heptanol was used as the Newtonian fluid and the PVP has the molecular weight of 1,300,000 g/mol. PVP concentration was 0–4000 ppm. The particle diameter was 2 micrometer and volume fraction was up to 0.18 in the polymer solution. Inks tested here showed almost constant viscosities and weakly elastic behavior. The extensional properties of inks showed the strain hardening behavior. The jetting experiments showed that the drop velocity of the suspension is slightly higher than that of the polymer solution without particles. The drop size of the suspension is larger than the drop size of the polymer solution without particles at the same driving voltage even though the viscosity of the suspension is larger. In the presentation we will discuss on the relation between jetting behavior and rheological properties.