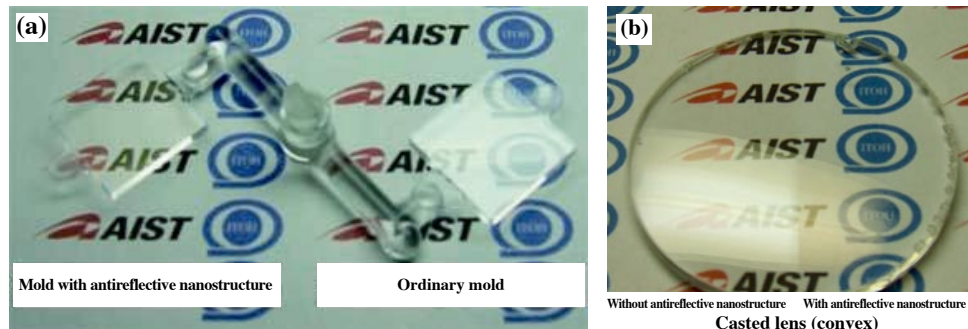


Mass production technology of antireflective lens

We have fabricated a novel antireflective technology that utilizes a nanostructured surface. A unique aspect of this approach is the possibility of fabrication of optical lens incorporating this antireflective technology using injection molding. Thus, low-cost, large area, and mass production of components has become possible. An antireflective nanostructure was prepared using metallic nanoparticles with an average particle diameter of 50 nm and a spacing of 100 nm as masks for etching. By using this technique, a complicated surface structure can be easily made with strong antireflective characteristics by all-dry process. This process is expected to be applicable to a wide range of mass-produced optical elements such as digital camera lens, car control panels and flat panel displays.



Injection-molded products

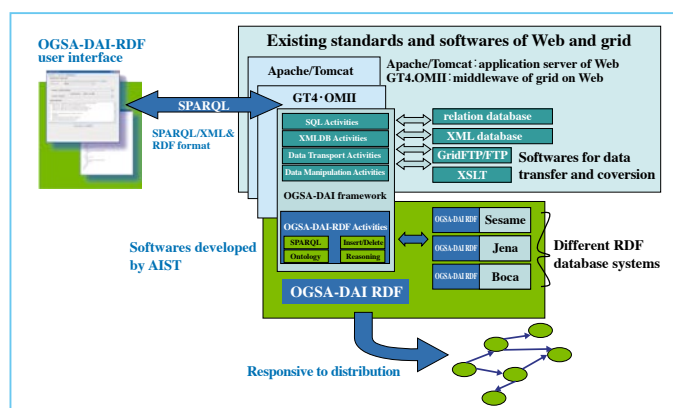
(a) injection molded with flat die (b) injection molded with lens die

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R&D of RDF databases in Grid environment

As the semantic web application grows, the amount of semantic data with the RDF(Resource Description Framework) format is rapidly increasing worldwide. A scalable and robust access mechanism for distributed RDF data is necessary. To solve the problem, we developed a middleware called OGSA-DAI-RDF, which is based on the grid standard architecture OGSA(Open Grid Services Architecture). By using OGSA-DAI-RDF, users can easily federate distributed RDF databases using the SPARQL standard language. This R&D activity is tightly linked with the OGF(Open Grid Forum) working group activity to set the access specification of RDF databases.



The Architecture of OGSA-DAI-RDF

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