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Development of seepage meter for submarine spring using Coriolis mass flowmeter

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The study of submarine springs has attracted much attention in recent years as a direct discharge of terrestrial groundwater and as a source of nutrients to the ocean. In investigating the mechanisms of submarine groundwater discharge, estimate of its discharge rate is an important consideration, because it permits modeling of the continent-ocean nutrient flux. For better estimation of rate of SGD, we developed the new seepage meter using Coriolis mass flowmeter. We will present the design and operation for developed seepage meter, and report the results of tests at a submarine spring on the coast of Kurobe alluvial fan in Toyama prefecture.

Keywords: submarine groundwater discharge, seepage meter, Coriolis mass flowmeter, Kurobe alluvial fan