

Time-Series Measurements and Spatial Distributions of Flow Velocity and Temperature at Suiyo Seamount, Izu-Bonin Arc

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We deployed two Mini-Medusa at areas of warm diffusive flow and two Medusa/Gemini on top of cased seafloor boreholes in August 2002 for about two weeks. All data shows strong correlation between fluid temperatures and seawater temperatures. Four systems are located at distances of several tens of meters; however, synchronized temperature fluctuations are frequently observed. The fluid velocities show strong positive correlation with those of temperatures in cases of Geminis on top of cased seafloor boreholes. It suggests that the fluid is driven by buoyancy through the cased seafloor borehole. However, they show negative correlation in cases of Geminis on diffusive flow areas. The most prominent feature of all data is the strong semi-diurnal oscillation.