

**ABSTRACT**

A mooring line tension monitoring system includes: a winch drum (3), around which a mooring line (11) is wound; and a band brake (4) including a brake drum (41) that rotates together with the winch drum (3). The mooring line tension monitoring system further includes: a winding layer number detector that detects the number of winding layers of the mooring line (11) on the winch drum (3); a load cell (5) that is incorporated in the band brake (4) and that measures band tension; and control circuitry that calculates tension applied to the mooring line (11) based on the number of winding layers of the mooring line (11) detected by the winding layer number detector and the band tension measured by the load cell (5).