Sustaining observations at 26°N: a new design for the RAPID array and recent variability of the Atlantic Meridional Overturning Circulation

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The time series of the Atlantic Meridional Overturning Circulation at 26°N has been extended to March 2020 and is now almost 16 years long. During the period from 2004 to 2008 the AMOC was 2.5 Sv stronger than in the following years. Since then there has been significant interannual variability but the AMOC has remained relatively weak compared with the first four years of observations. The design of the array was changed in 2020 so that continuous measurements are no longer made over the mid-Atlantic Ridge. In this presentation we examine the impact of this change on the accuracy of the RAPID timeseries. We find that, although the mid-Atlantic ridge measurements have been important in determining the mean structure of the overturning stream function, the impact upon the variability of the stream function maximum is very small.