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Influence of humic substances on iron distribution in the East China Sea

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1 Influence of humic substances on iron distribution in the East China
2 Sea

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10 **Abstract:**

11 The influence of humic substances (specifically humic and fulvic acids, referred to as
12 HS-HA and HS-FA) as well as other factors, such as major nutrient concentrations of
13 total dissolved nitrogen (TDN), total dissolved phosphate (TDP) and hydrologic
14 factors, on the distribution of total dissolved iron (DFe) and the chemical speciation of
15 DFe was studied in the East China Sea (ECS) during a summer cruise in 2013. As the
16 wide range fraction of nature organic matter, the HS-HA, HS-FA in ESC contains most
17 part of the organic ligand (Lt) of DFe. The concentrations of HS-HA, DFe and Lt in
18 coastal water masses were higher than those in the water masses affected by the
19 Kuroshio Current. The highest concentrations of HS-HA and DFe were observed in
20 surface water at stations MT1 and MC4, with the value of 336.5 $\mu\text{g SRHA/L}$ and 20.3
21 nmol/L , respectively, whereas, the lowest concentrations of HS-HA and DFe were

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