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How high can you go? Finding transfinite ordinals in infinite Capture go go

Capture Go has the same mechanics as Go except the first player to capture a group wins. On a finite go board, we can have "win in k " puzzles. Positions where Black is winning but where White can prolong the game for at most k moves. On an infinite board, even more types of puzzle are possible. We can imagine the possibility of a "win in omega" puzzle in which Black is winning but White can choose an arbitrarily high finite number and prolong the game for as many moves. If we have a position in infinite Capture Go which Black will win in finite time, we can assign it an ordinal number. The supremum of all ordinal numbers that correspond to infinite Capture Go positions is called the omegaone of Capture Go. I will introduce the problem of finding the omegaone of Capture Go and present some progress that we have made. This is joint work with Isobel Shaw.