

X. CONCLUSION

This study proposed the method that produces the feeling of talking with a remote operator when the user is actually interacting with an autonomous robot. We conducted experiments based on the social telepresence test that evaluates whether an autonomous robot produces a remote operator's presence. From our experiments, we found that presenting a physically embodied motion and the user's belief that he/she had talking with a remote operator are factors for passing the social telepresence test. In fact, people decide the presence or absence of a remote operator based on their prior experience, and physically embodied talking behavior might remind them of the operator's presence. We also found that the interaction gap between prior and subsequent experiences reduces the chance of passing the social telepresence test. Prior experience in which a user talked with an autonomous robot under the guise of a remote operator blurred the gap and effectively produced the operator's presence even while interacting with an autonomous robot. Moreover, the improvement of technologies that produce natural and various talking behaviors will enable such autonomous robots to fill the interaction quality gap. We expect that this study will mutually facilitate telerobotics and intelligent robotics.

ACKNOWLEDGMENT

This study was supported by JST CREST "Studies on Cellphone-type Teleoperated Androids Transmitting Human Presence," JSPS Grants-in-Aid for Scientific Research No. 26280076 "Robot-Enhanced Displays for Social Telepresence," and KDDI Foundation Research Grant Program "Robotic Avatars for Human Cloud."

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