# Annotated Bibliography on Causal Consistency

Hengfeng Wei
hfwei@nju.edu.cn

## 1 Specification

Ahamad, M., Neiger, G., Burns, J. E., Kohli, P., and Hutto, P. W. Causal memory: Definitions, implementation, and programming. *Distributed Computing 9*, 1 (1995), 37–49

*The original definition of causal memory with respect to read-write registers. It also contains a classic implementation using vector clocks, which is, however, not fault-tolerant.*

Perrin, M., Mostefaoui, A., and Jard, C. Causal consistency: Beyond memory. In *Proceedings of the 21st ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP '2016)* (2016), 26:1–26:12

*This paper discusses three variants of causal consistency, namely . . ..*

Terry, D. B., Demers, A. J., Petersen, K., Spreitzer, M., Theimer, M., and Welch, B. W. Session guarantees for weakly consistent replicated data. In *Proceedings of the Third International Conference on Parallel and Distributed Information Systems*, PDIS '94, IEEE Computer Society (USA, 1994), 140–149

*This paper disusses four session guarantees (RYW, MR, WFR, MW) and their implementations.*

Brzezinski, J., Sobaniec, C., and Wawrzyniak, D. From session causality to causal consistency. In *12th Euromicro Conference on Parallel, Distributed and Network-Based Processing, 2004. Proceedings.* (2004), 152–158

*This paper discusses relationship between session guarantees and causal consistency.*

# 2 Theory

Burckhardt, S., Gotsman, A., and Yang, H. Understanding eventual consistency. Tech. Rep. MSR-TR-2013-39, March 2013

*This paper presented a flexible specification framework for eventually consistent systems.*

# 3 Protocols (and Clocks)

# 4 Systems

# 5 Checking

# 6 Formal Methods

Lahav, O. Verification under causally consistent shared memory. *ACM SIGLOG News 6,* 2 (Apr. 2019), 43–56

*We consider concurrent programs interacting with causally consistent shared memory. After describing the semantics of such programs, we outline several verification problems and survey some existing solutions.*