

Correlator Matrix Visualization

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```
source('numeric_utils.R')

workdir <- get_workdir()

all_projected_paths <- Sys.glob(paste0(workdir, '/projected/resolved/*_*_2552.js'))
all_jsons <- lapply(all_projected_paths, jsonlite::read_json, simplifyVector = TRUE)

irrep_nonempty <- sapply(all_jsons, function (x) length(unlist(x))) > 0
relevant_jsons <- all_jsons[irrep_nonempty]

data <- do.call(c, relevant_jsons)

parts <- list()

for (total_momentum_idx in 1:length(data)) {
  total_momentum_str <- names(data)[[total_momentum_idx]]
  irreps <- data[[total_momentum_idx]]

  total_momentum_vec <- total_momentum_str_to_vec(total_momentum_str)
  total_momentum_sq <- sum(total_momentum_vec^2)

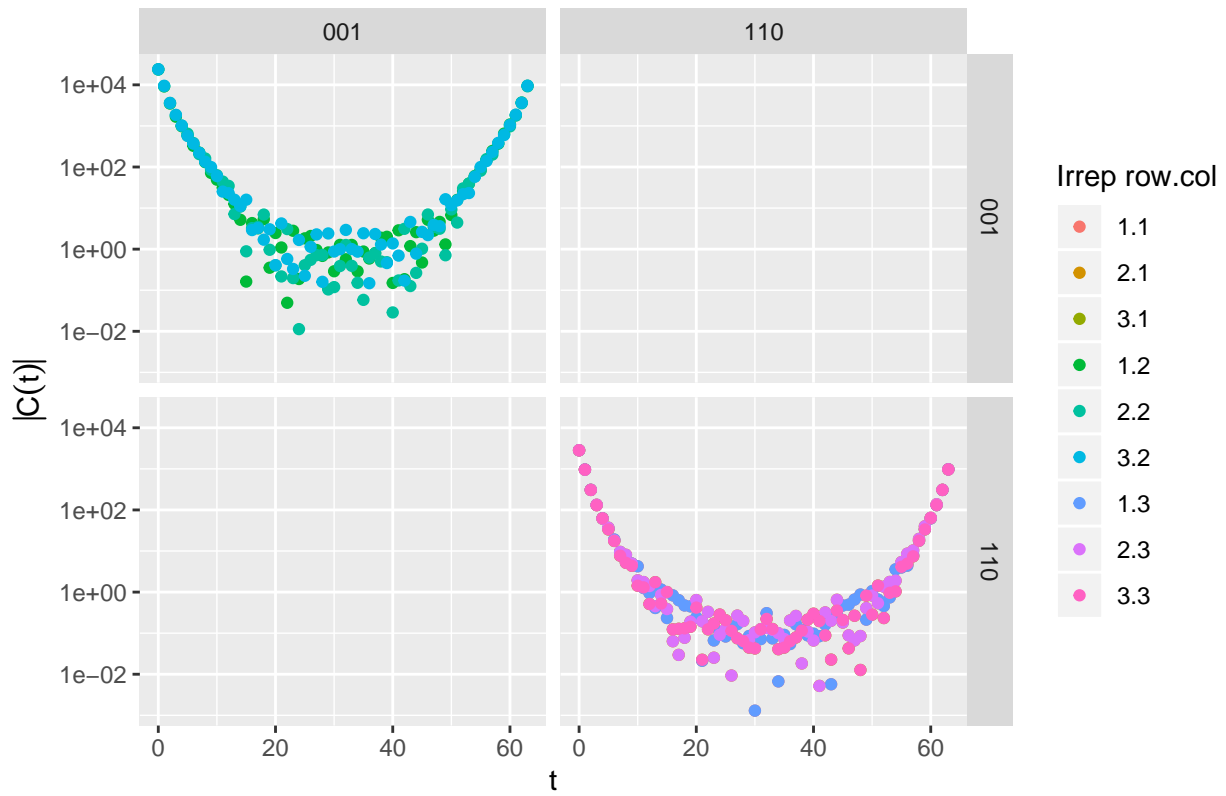
  for (irrep_idx in 1:length(irreps)) {
    irrep <- names(irreps)[[irrep_idx]]
    irrep_cols <- irreps[[irrep_idx]]
    if (length(irrep_cols) == 0) {
      next
    }

    for (irrep_col_idx in 1:length(irrep_cols)) {
      irrep_col_str <- names(irrep_cols)[[irrep_col_idx]]
      irrep_rows <- irrep_cols[[irrep_col_idx]]
      if (length(irrep_rows) == 0) {
        next
      }

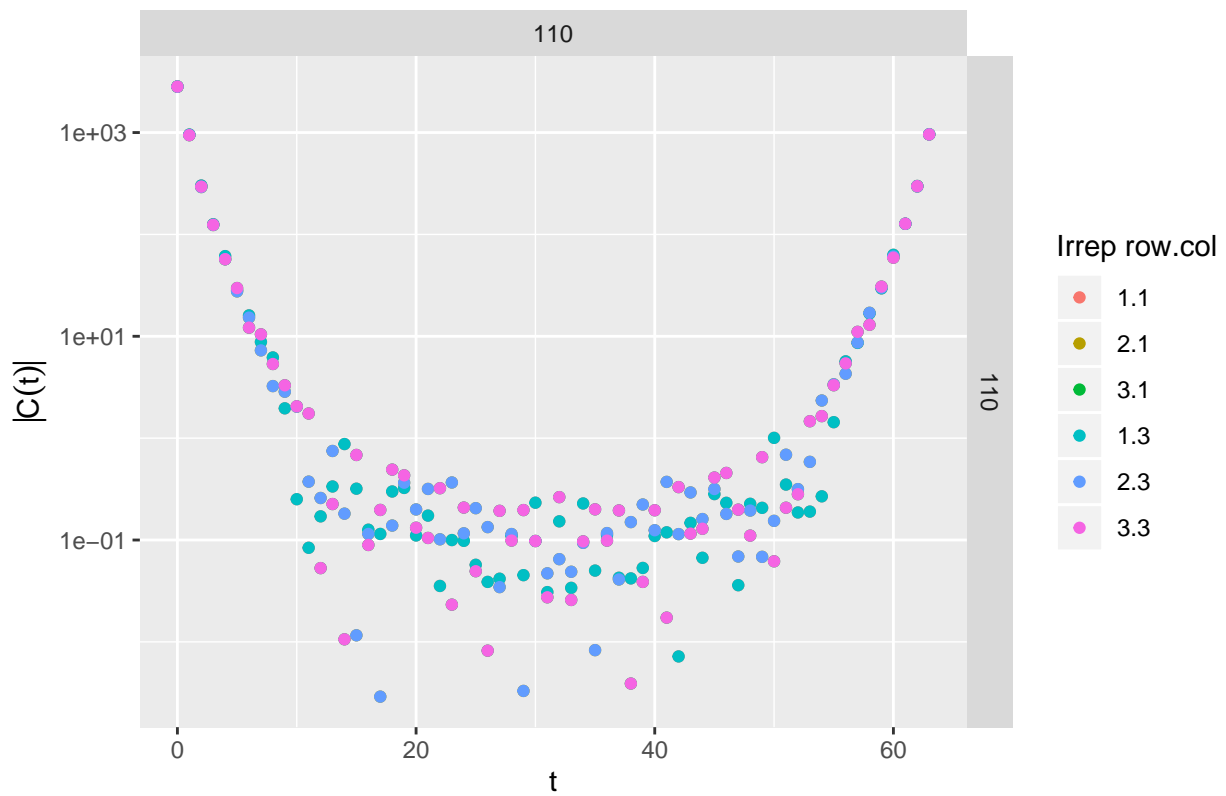
      for (irrep_row_idx in 1:length(irrep_rows)) {
        irrep_row_str <- names(irrep_rows)[[irrep_row_idx]]
        corr_rows <- irrep_rows[[irrep_row_idx]]
        if (length(corr_rows) == 0) {
          next
        }

        for (corr_row_idx in 1:length(corr_rows)) {
          corr_row_str <- names(corr_rows)[[corr_row_idx]]
          corr_cols <- corr_rows[[corr_row_idx]]
          if (length(corr_cols) == 0) {
            next
          }
        }
      }
    }
  }
}
```

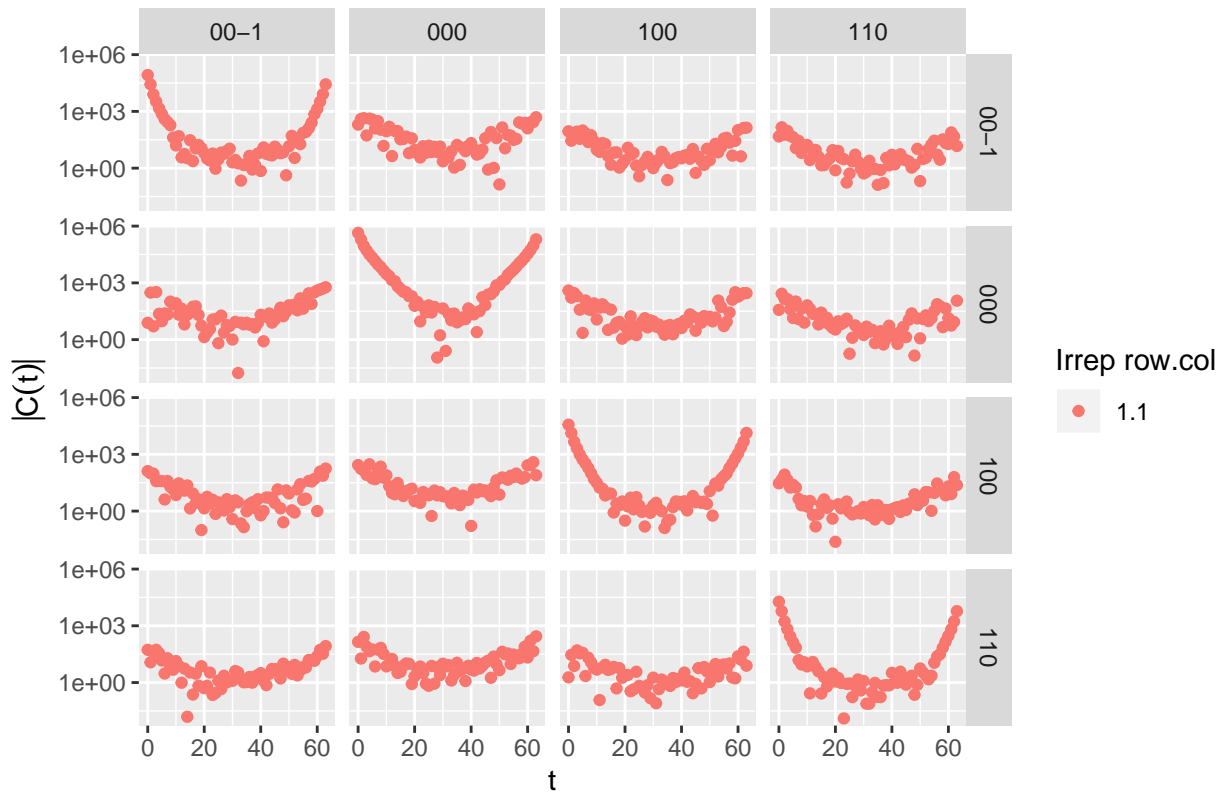

$P^2 = 0$, irrep = T1u, P = 000



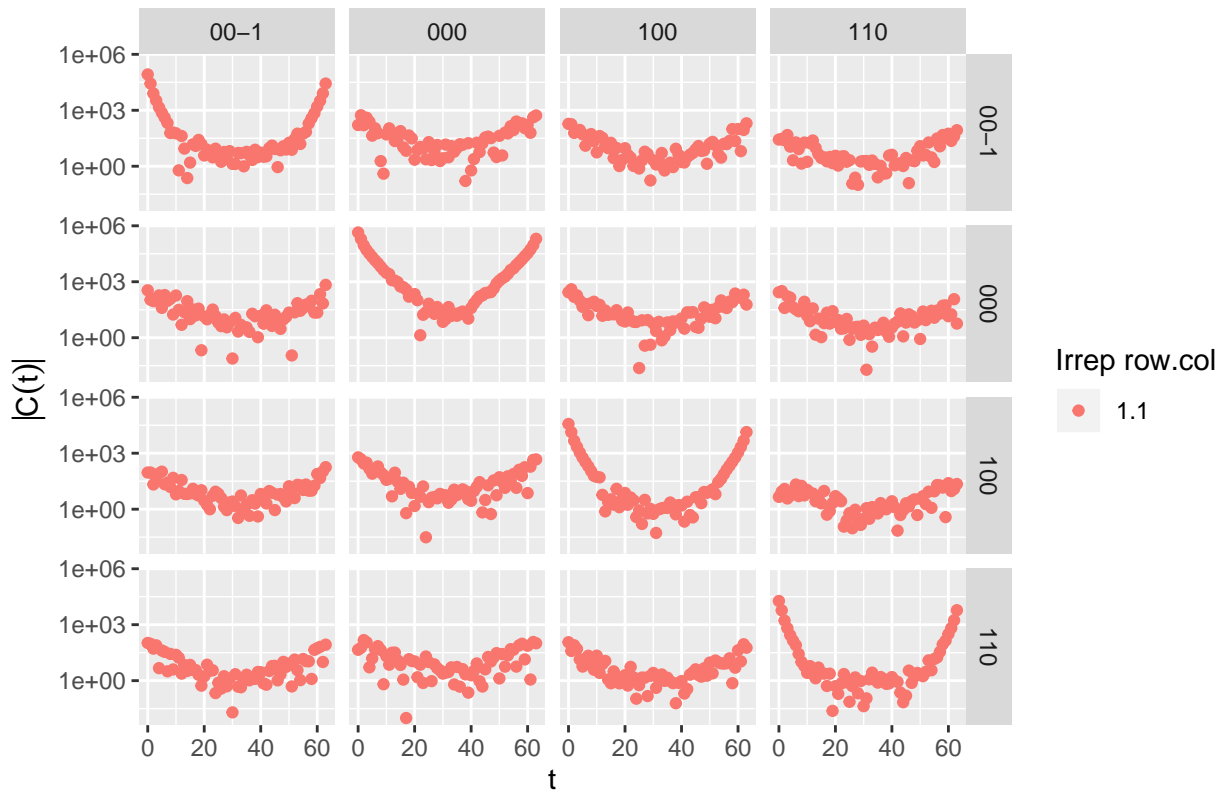
$P^2 = 0$, irrep = T2u, P = 000



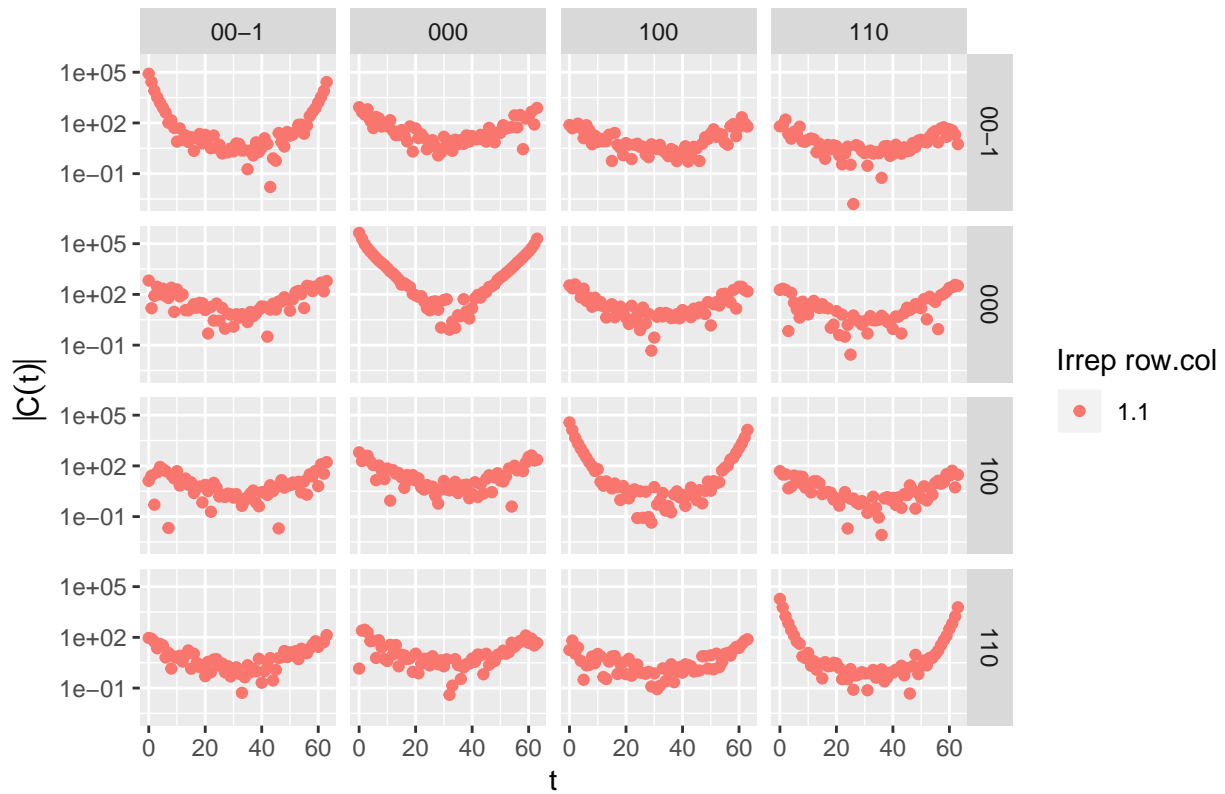
$P^2 = 1$, irrep = A1, $P = -100$



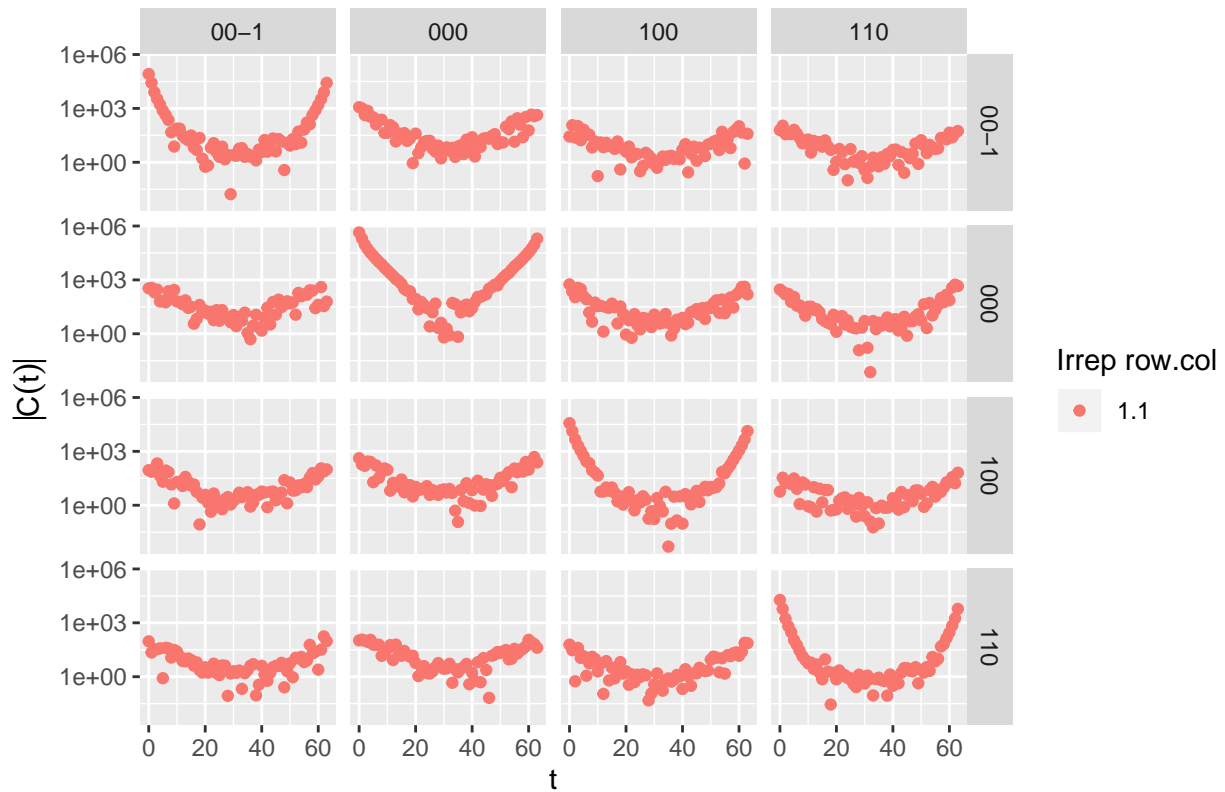
$P^2 = 1$, irrep = A1, $P = 0-10$



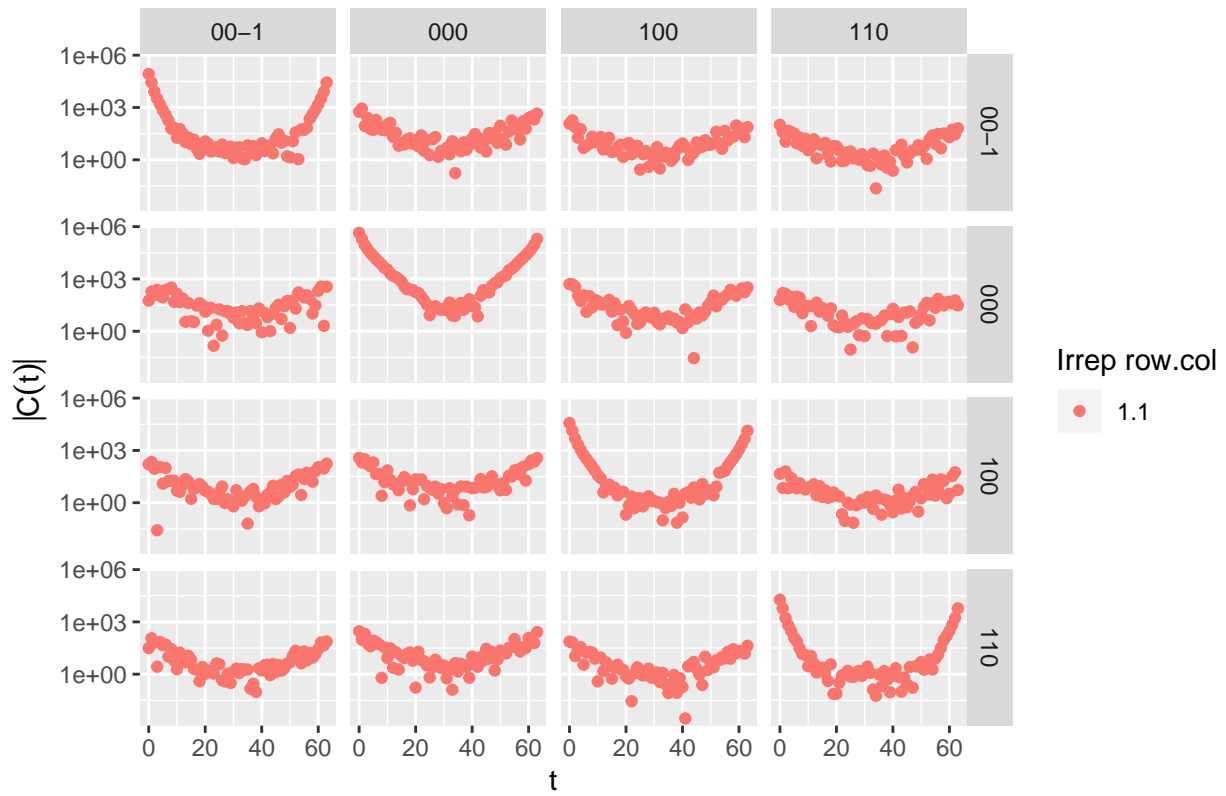
$P^2 = 1$, irrep = A1, P = 00-1



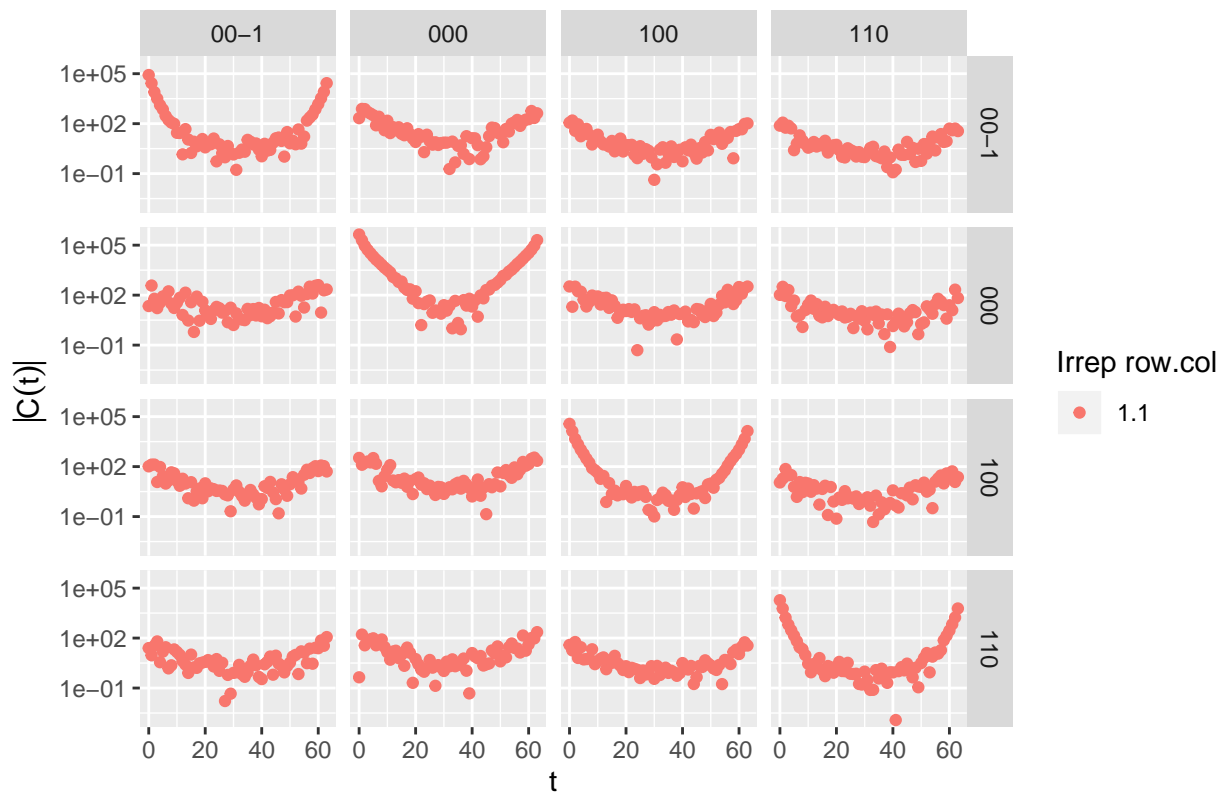
$P^2 = 1$, irrep = A1, P = 001



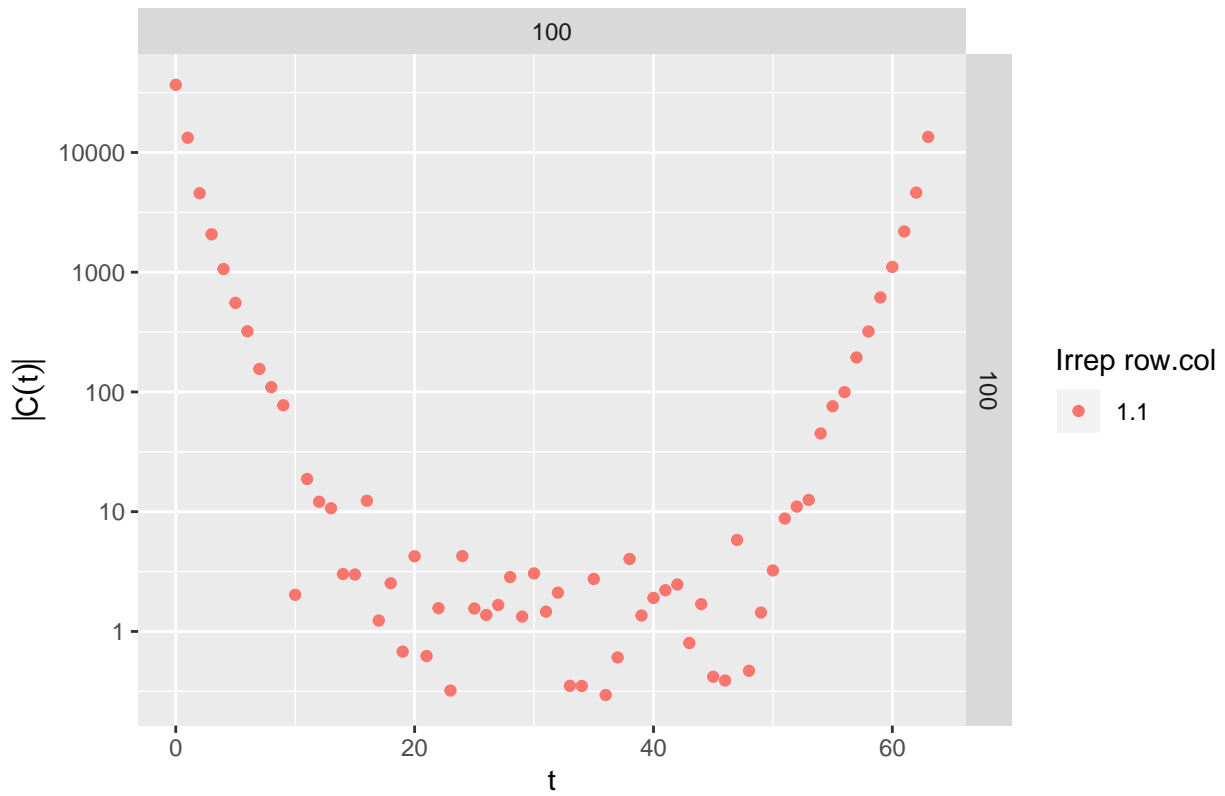
$P^2 = 1$, irrep = A1, P = 010



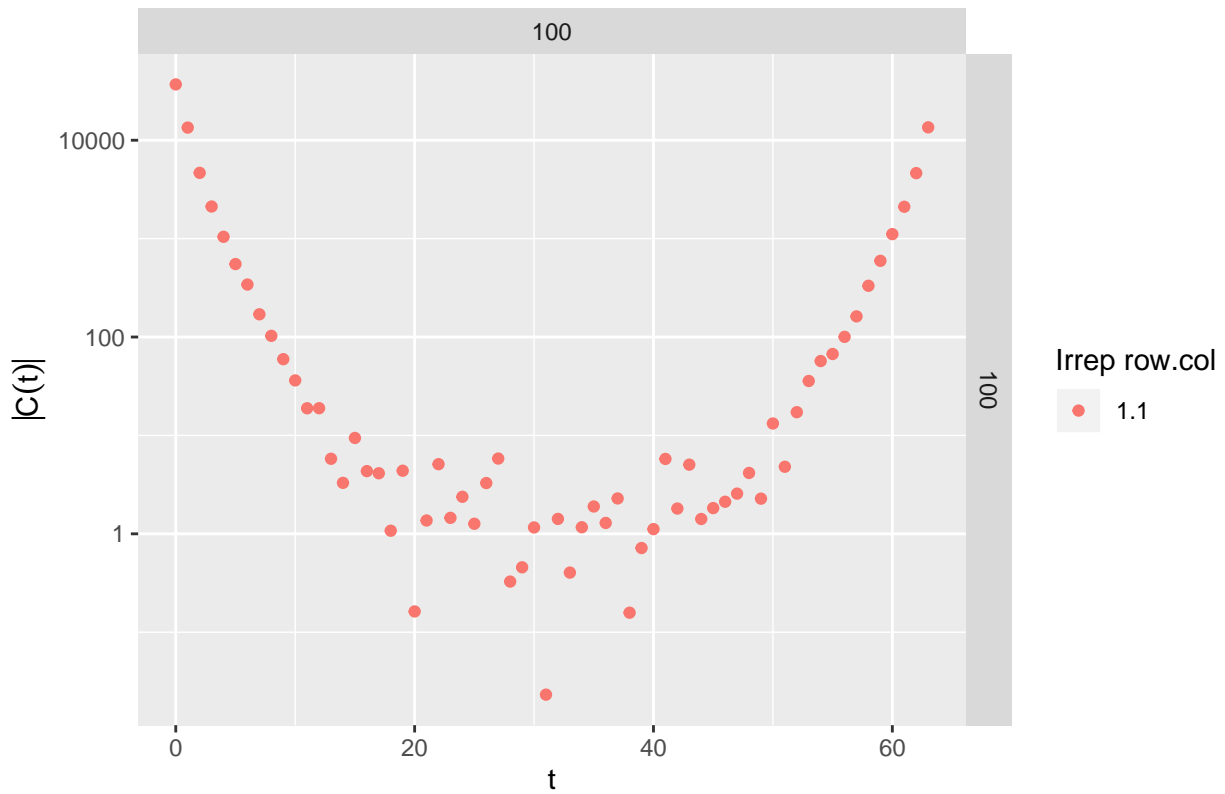
$P^2 = 1$, irrep = A1, P = 100



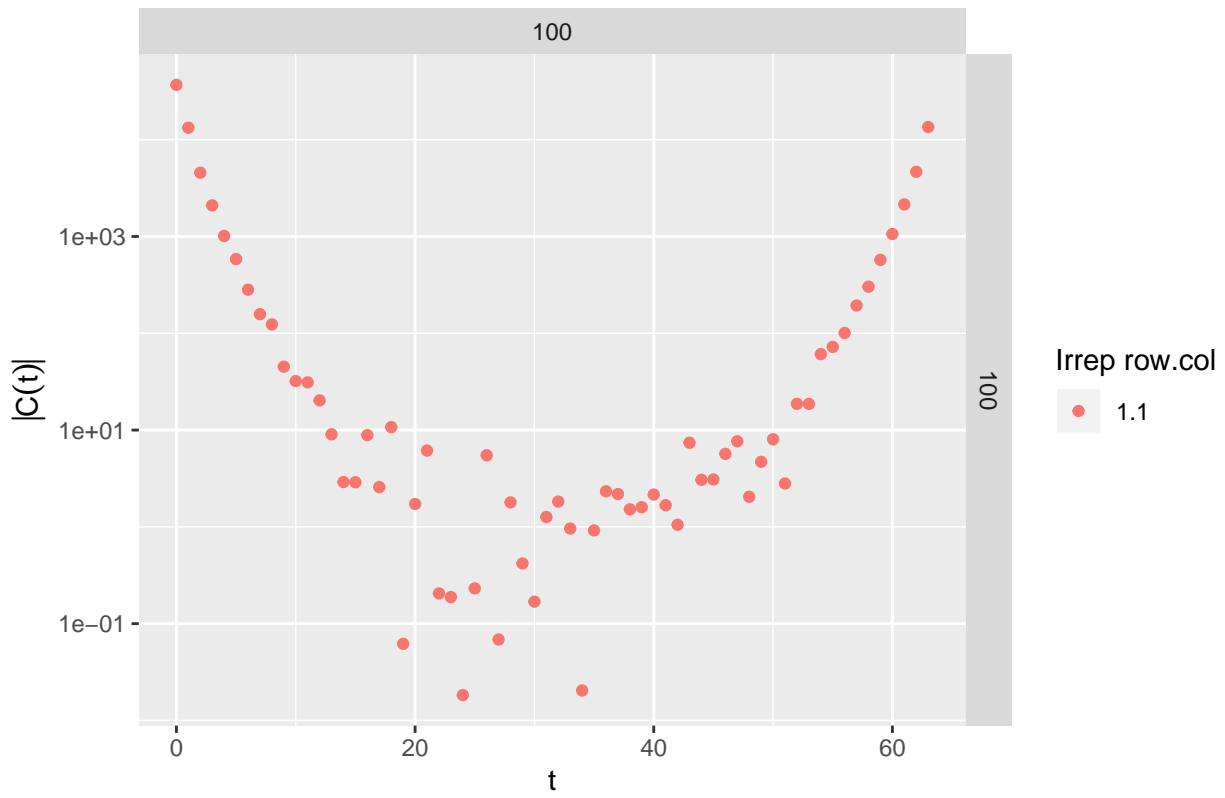
$P^2 = 1$, irrep = B1, $P = -100$



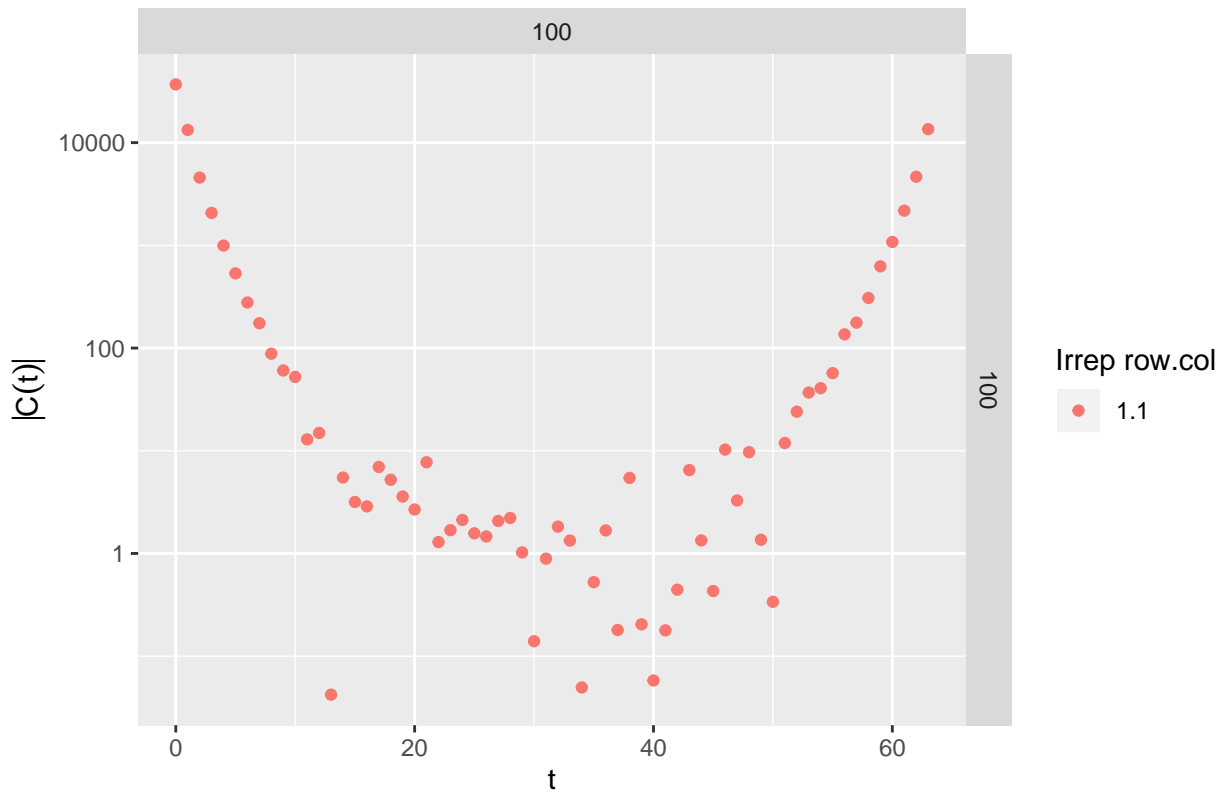
$P^2 = 1$, irrep = B1, $P = 0-10$



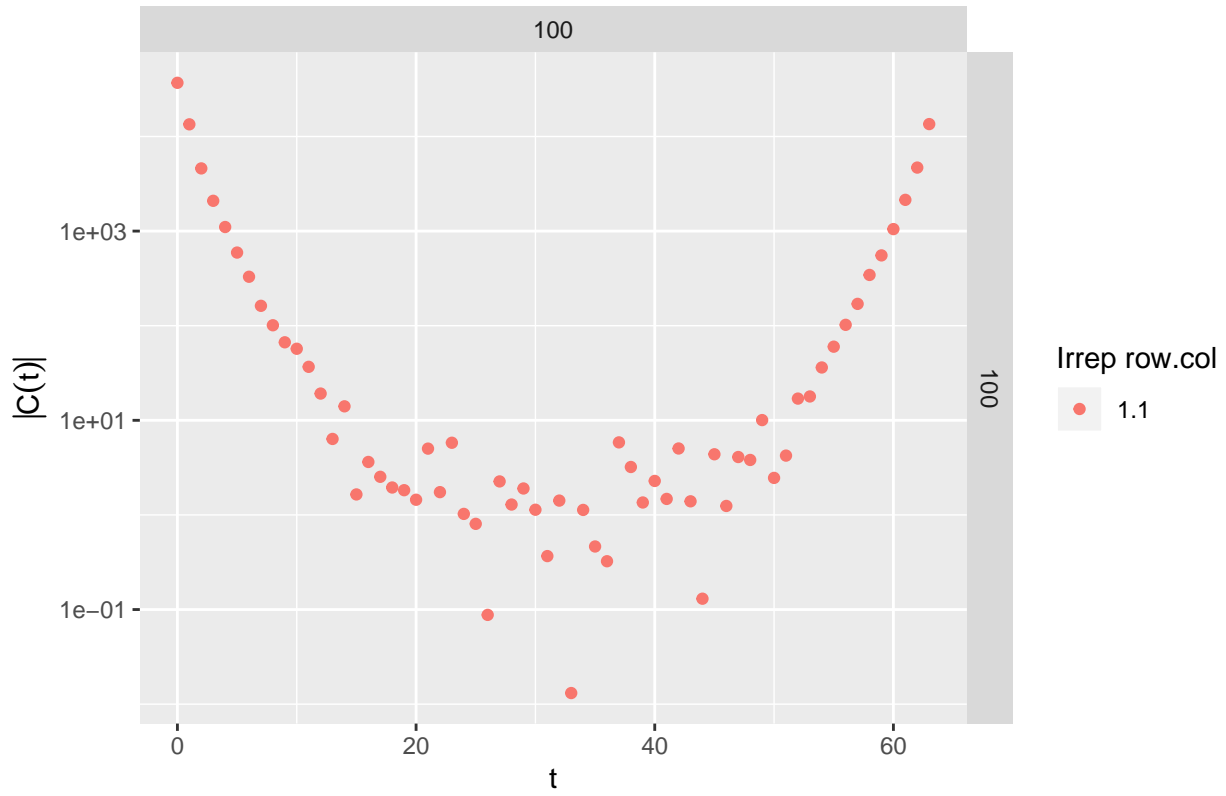
$P^2 = 1$, irrep = B1, $P = 00-1$



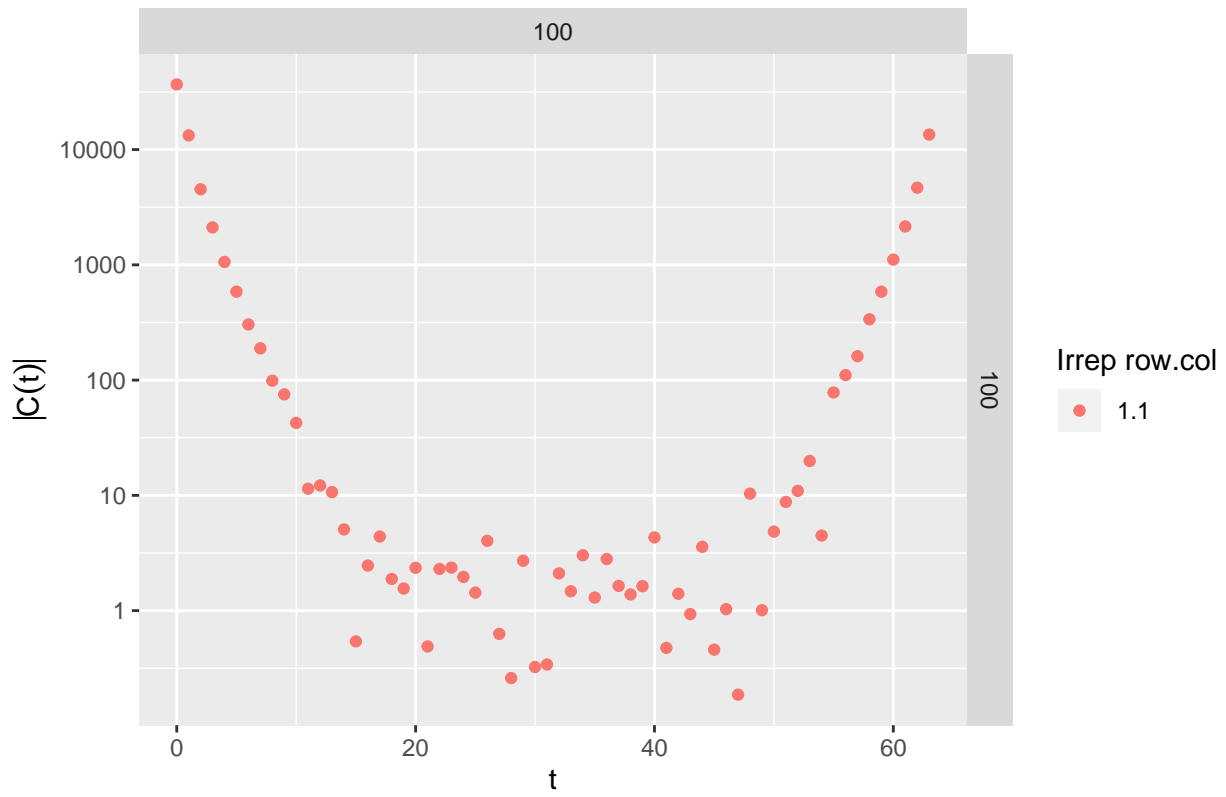
$P^2 = 1$, irrep = B1, $P = 001$



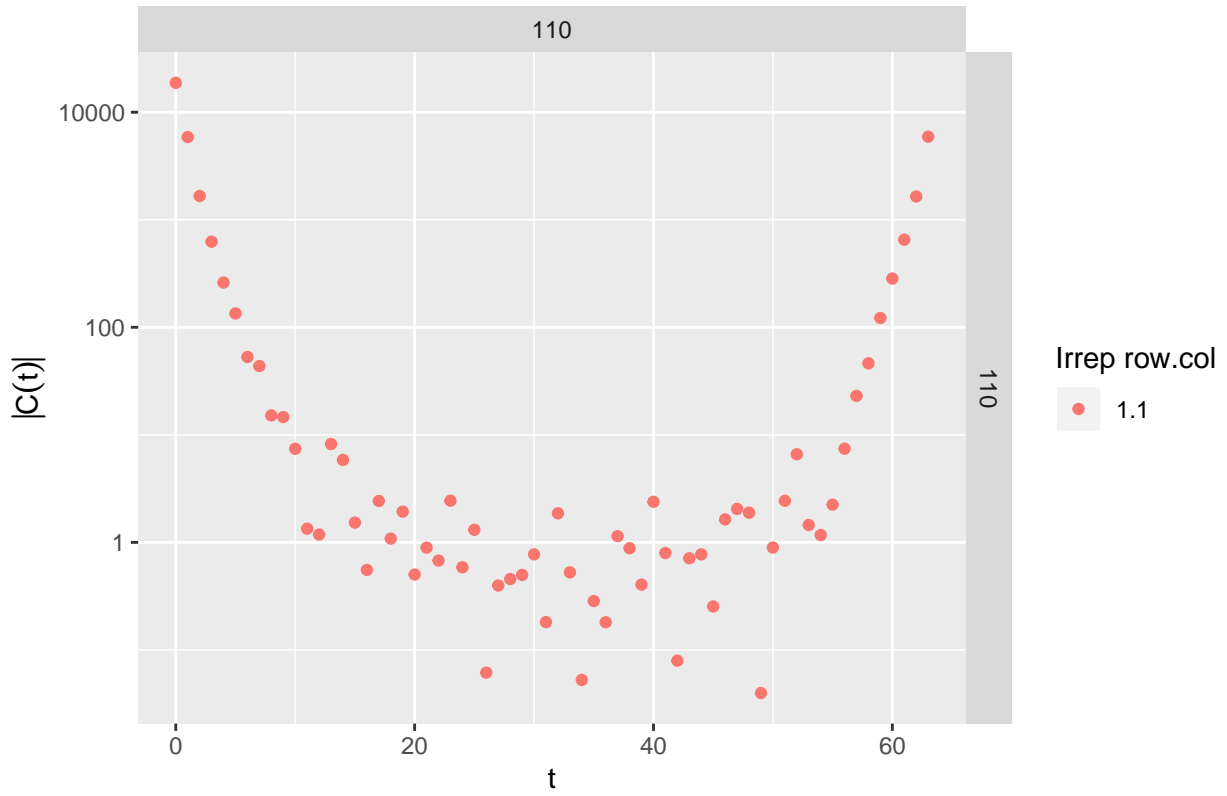
$P^2 = 1$, irrep = B1, $P = 010$



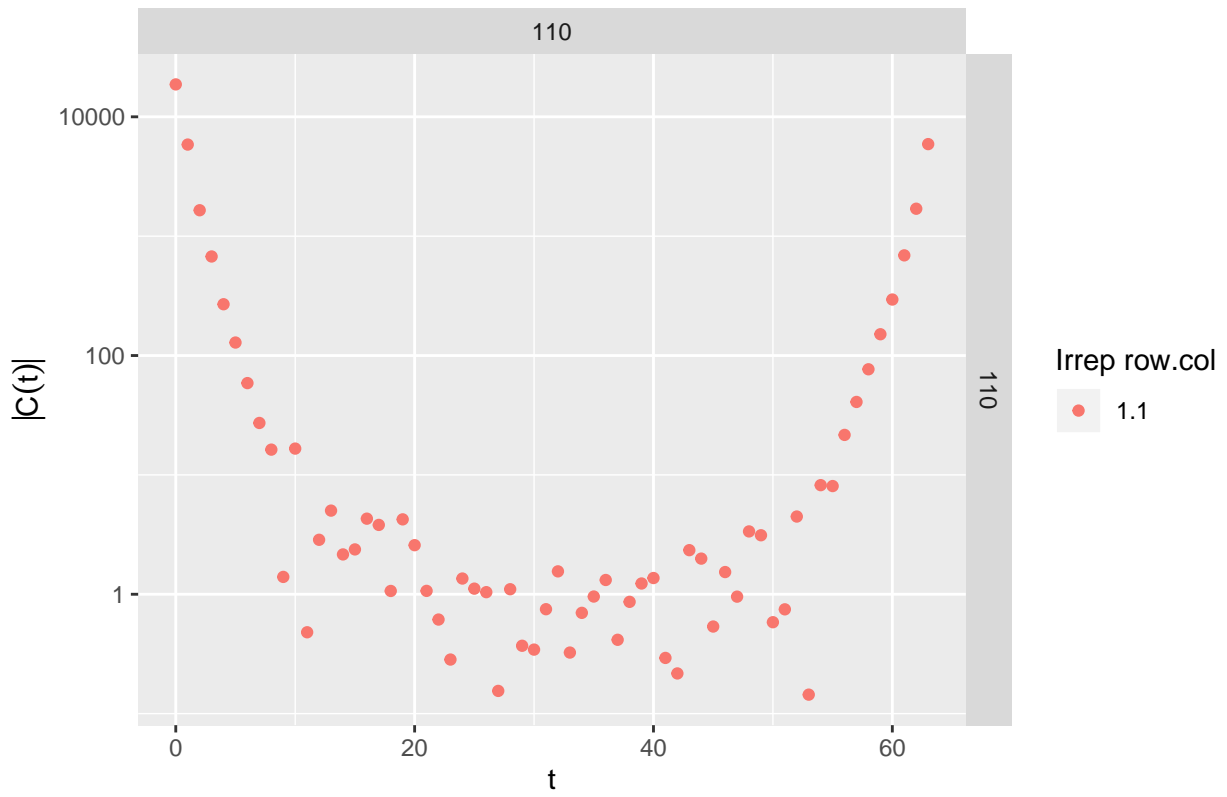
$P^2 = 1$, irrep = B1, $P = 100$



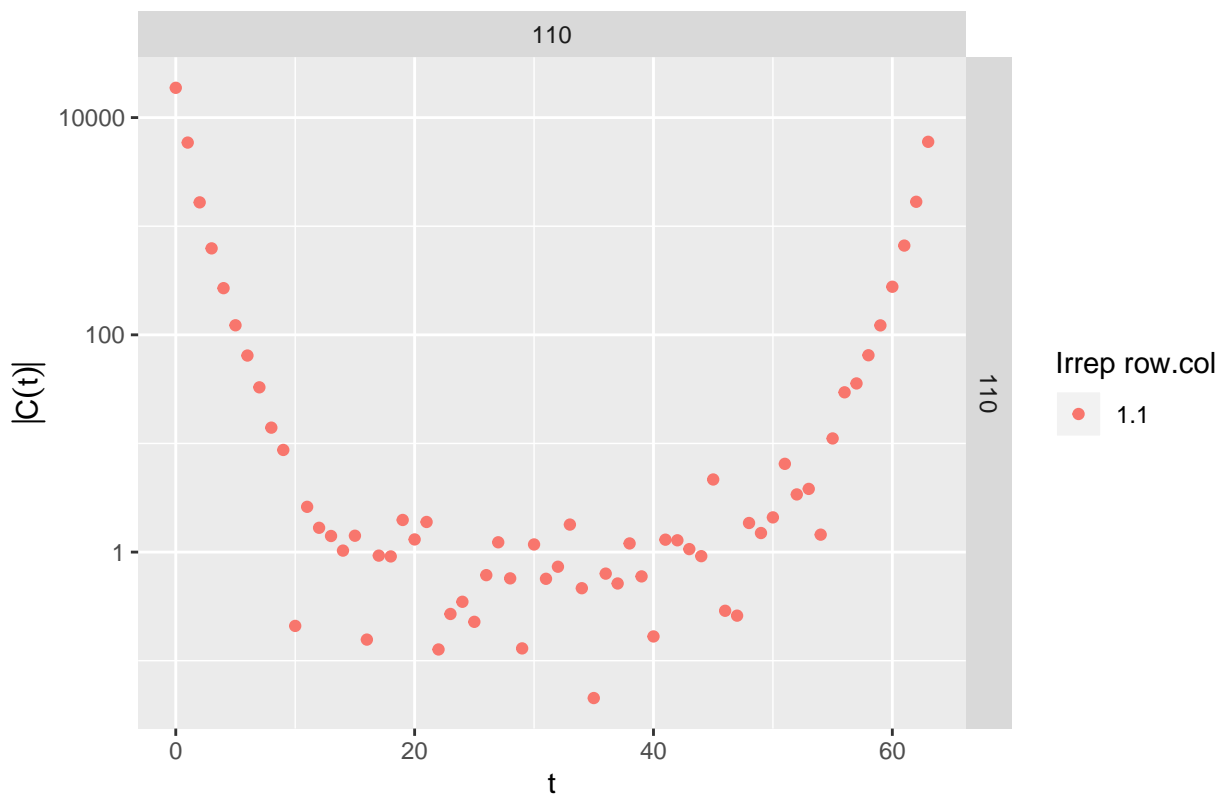
$P^2 = 1$, irrep = B2, $P = -100$



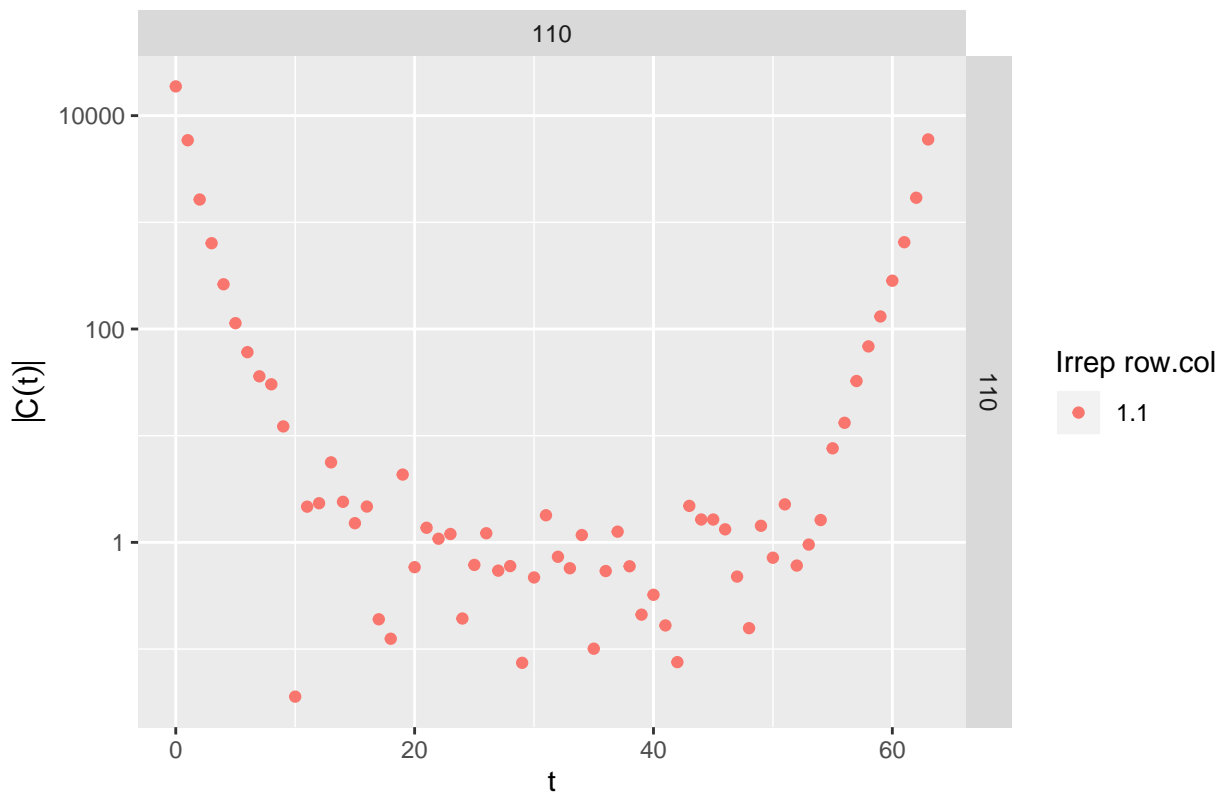
$P^2 = 1$, irrep = B2, $P = 0-10$



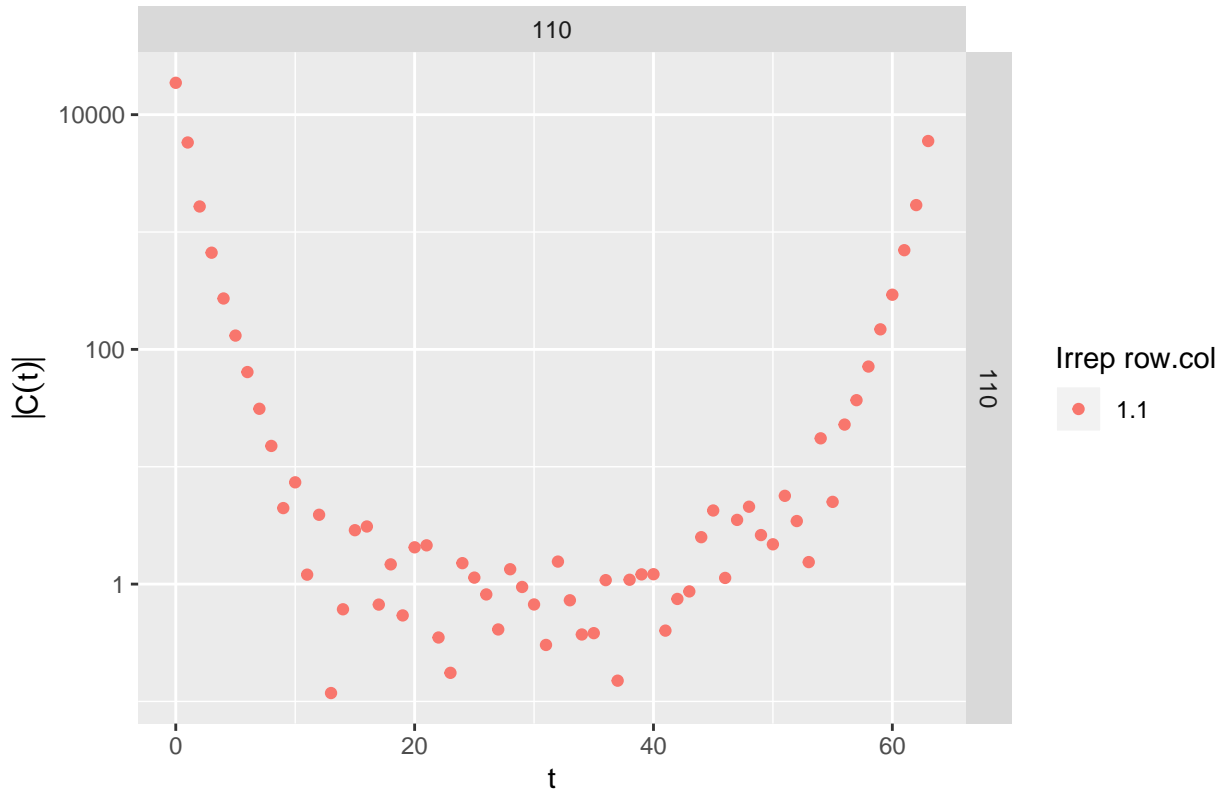
$P^2 = 1$, irrep = B2, P = 00-1



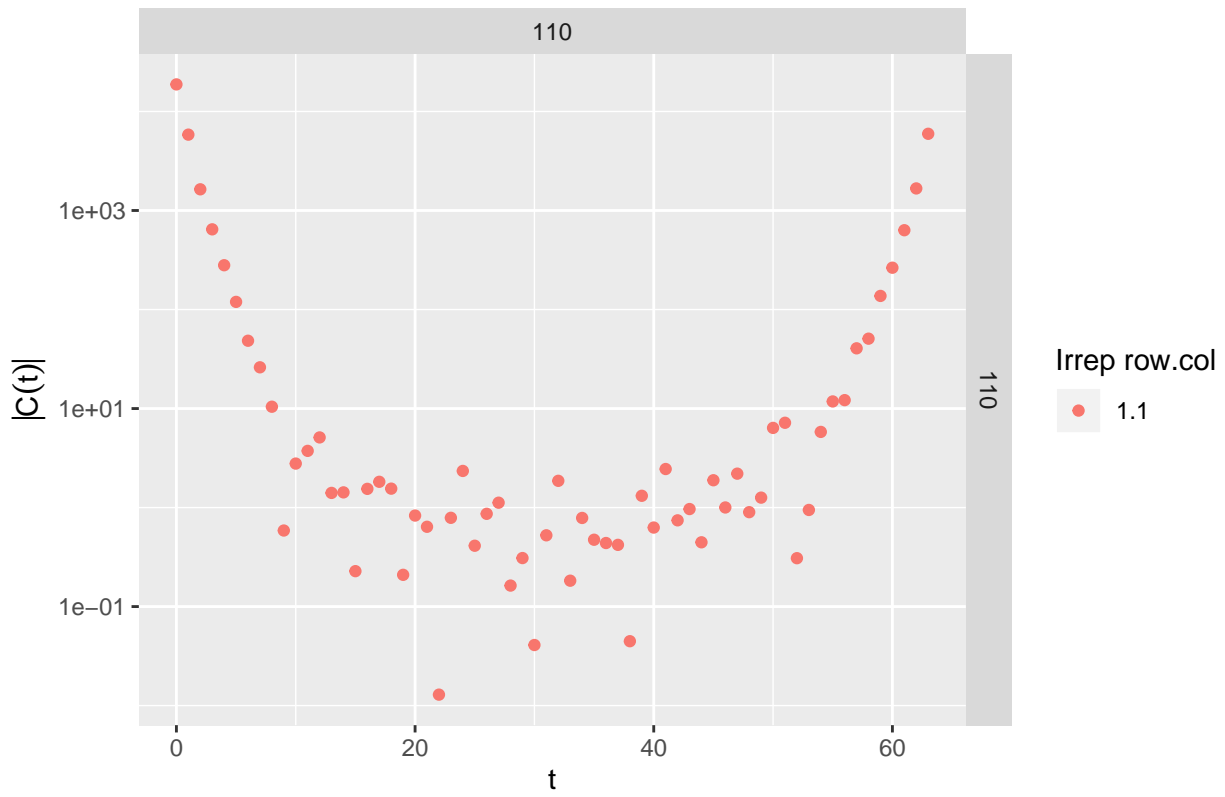
$P^2 = 1$, irrep = B2, P = 001



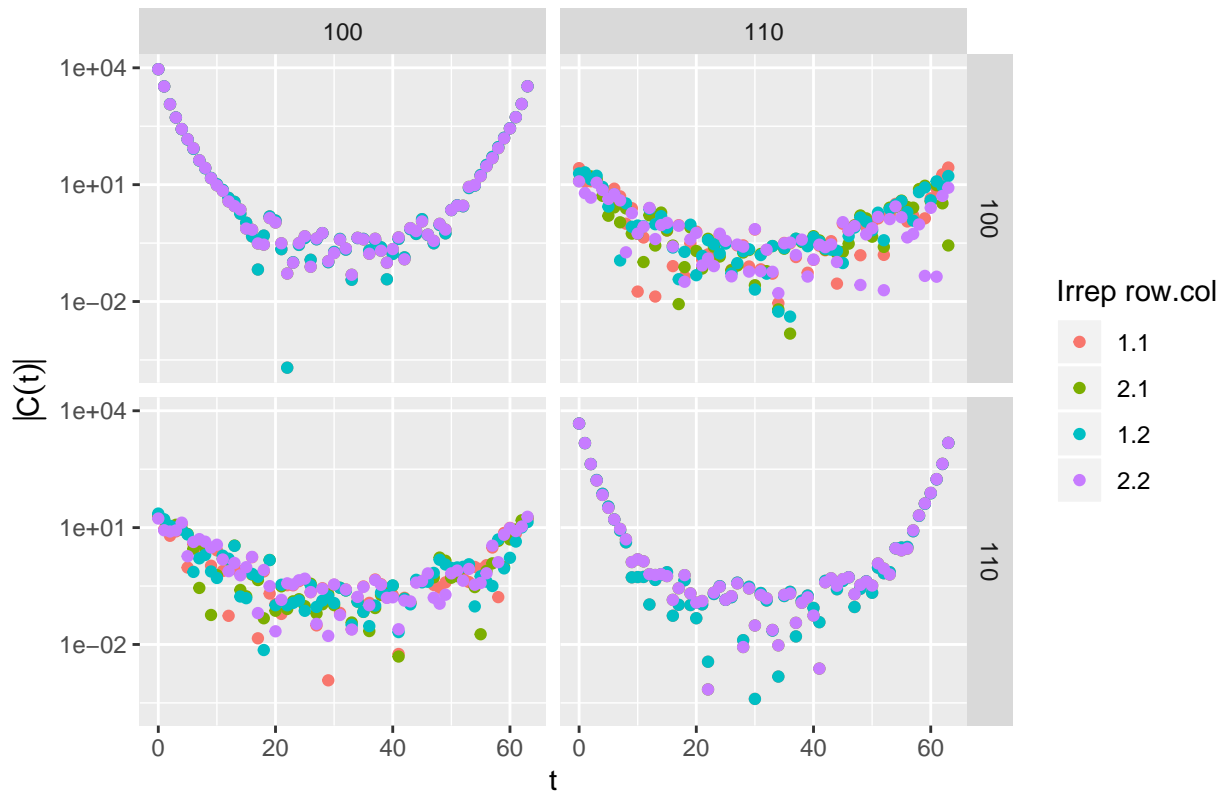
$P^2 = 1$, irrep = B2, $P = 010$



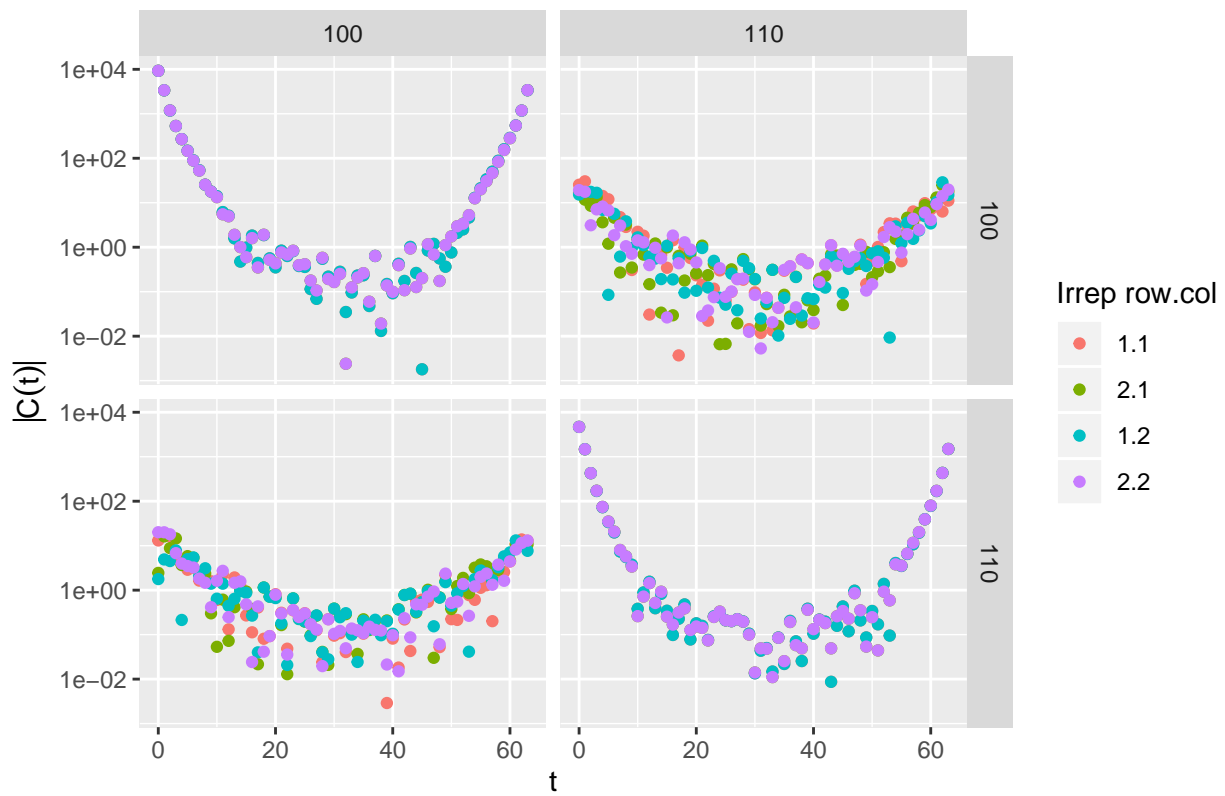
$P^2 = 1$, irrep = B2, $P = 100$



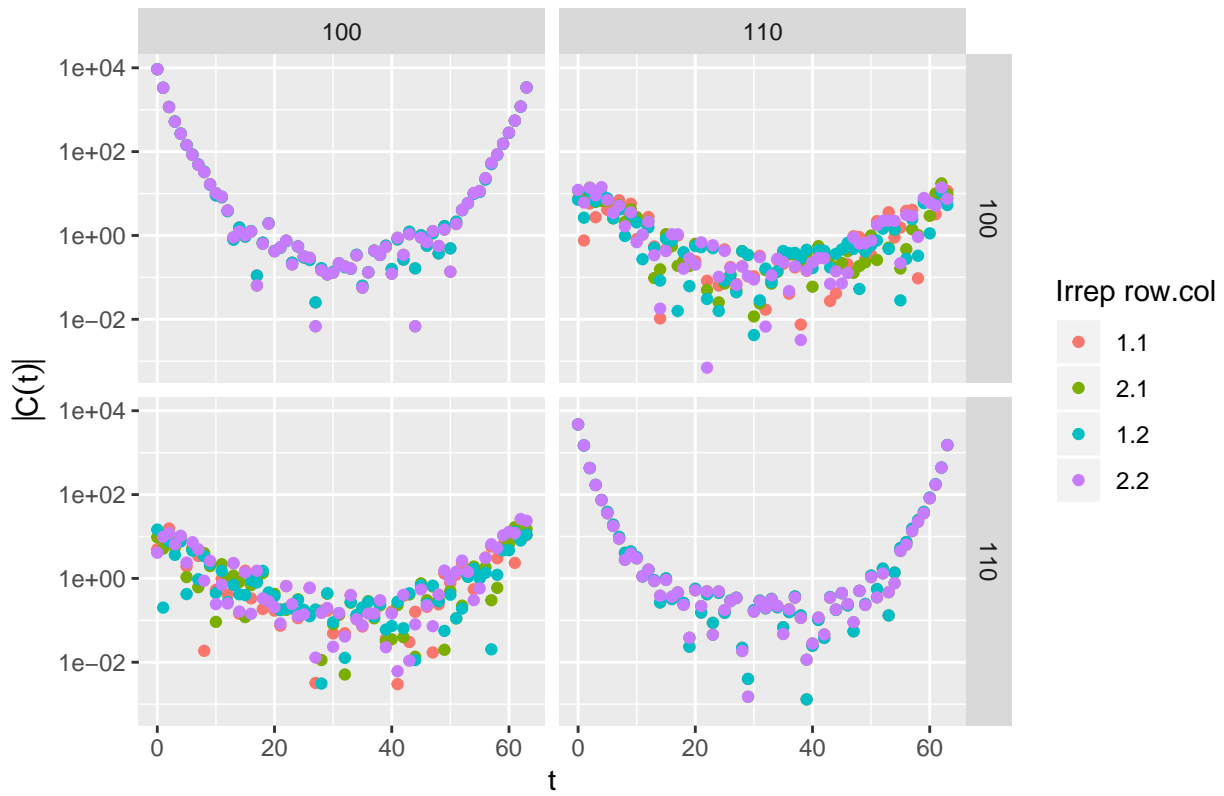
$P^2 = 1$, irrep = E, $P = -100$



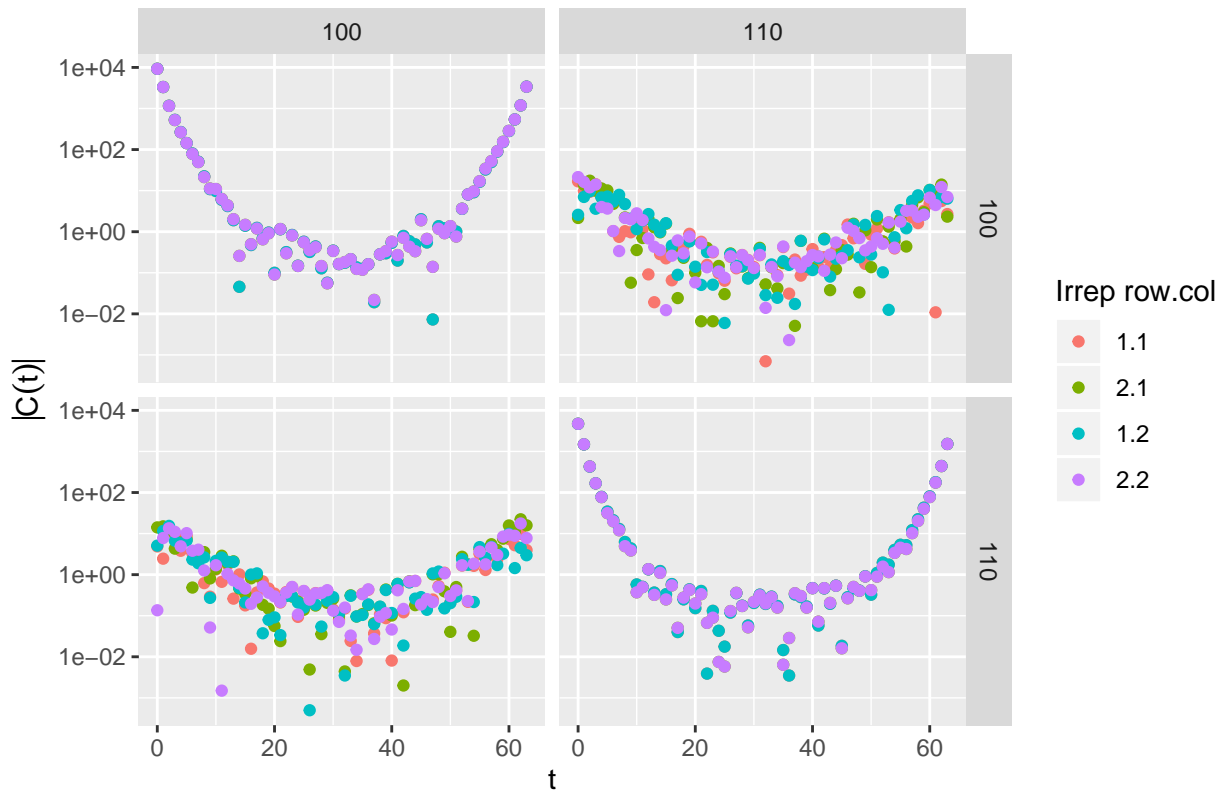
$P^2 = 1$, irrep = E, $P = 0-10$



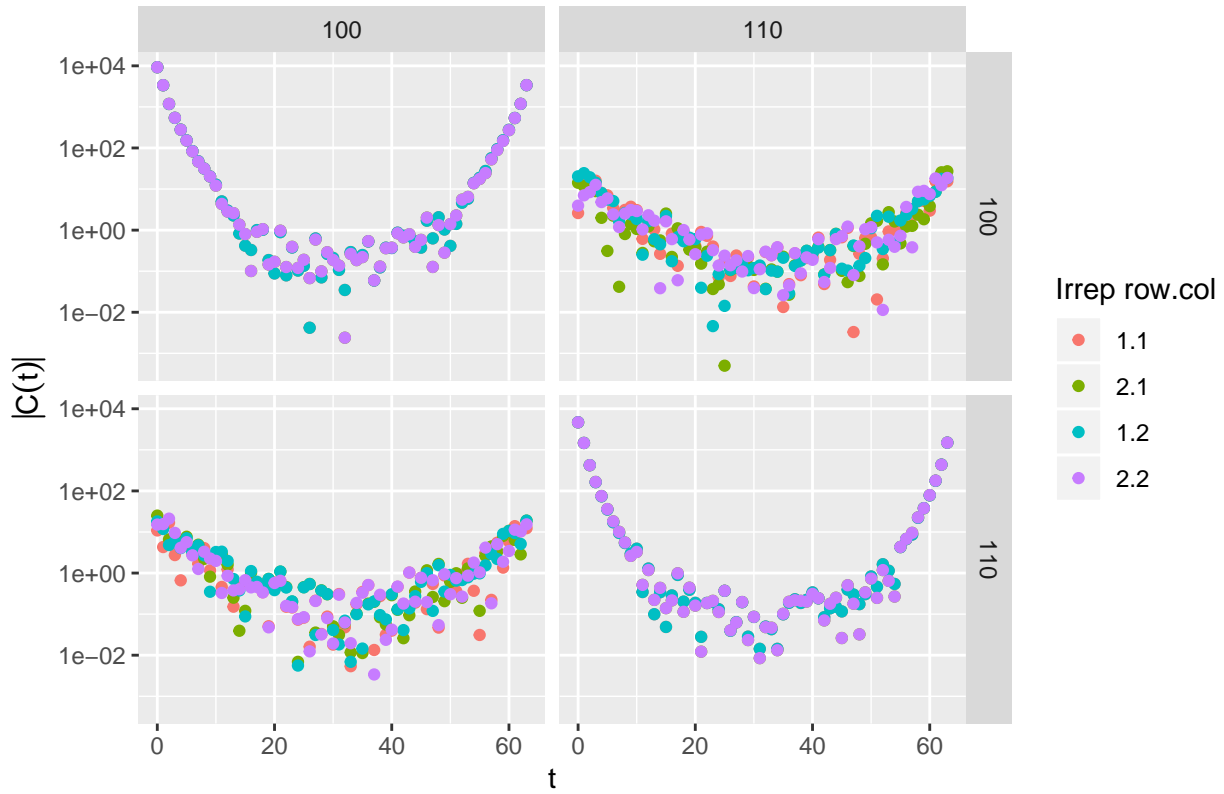
$P^2 = 1$, irrep = E, $P = 00-1$



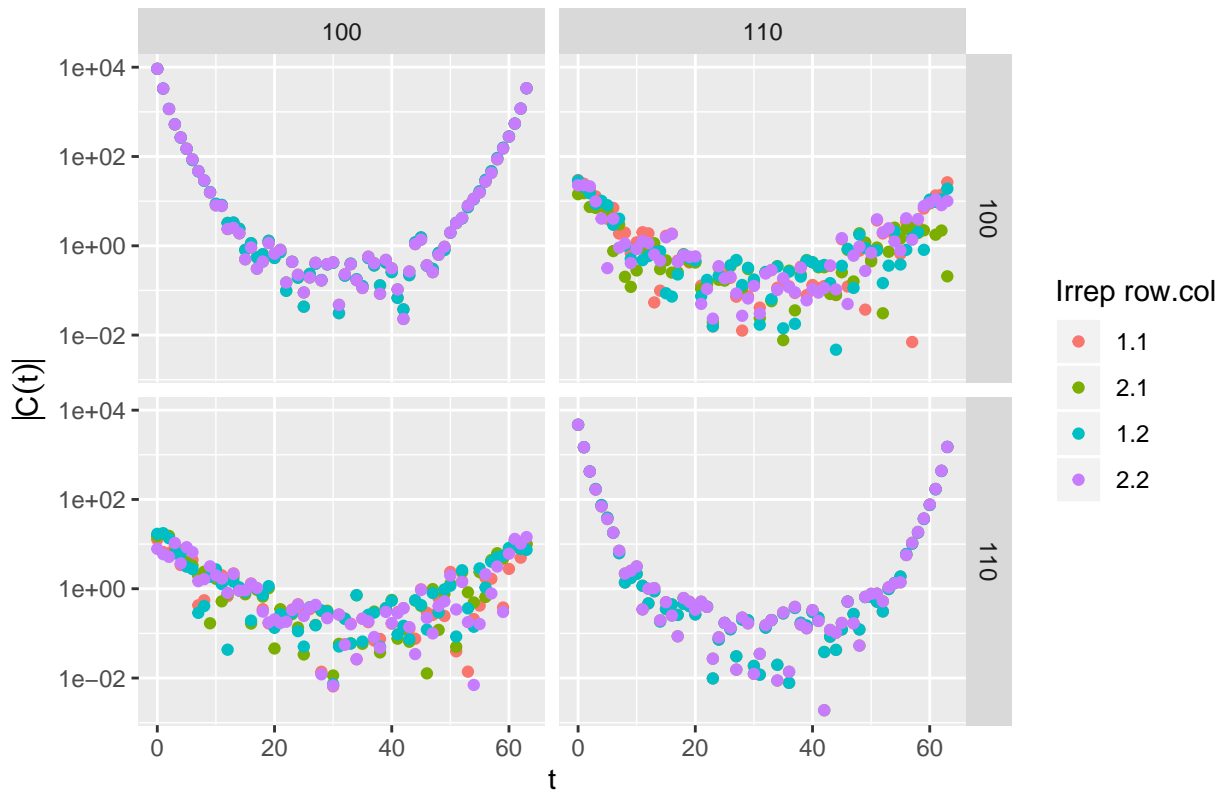
$P^2 = 1$, irrep = E, $P = 001$



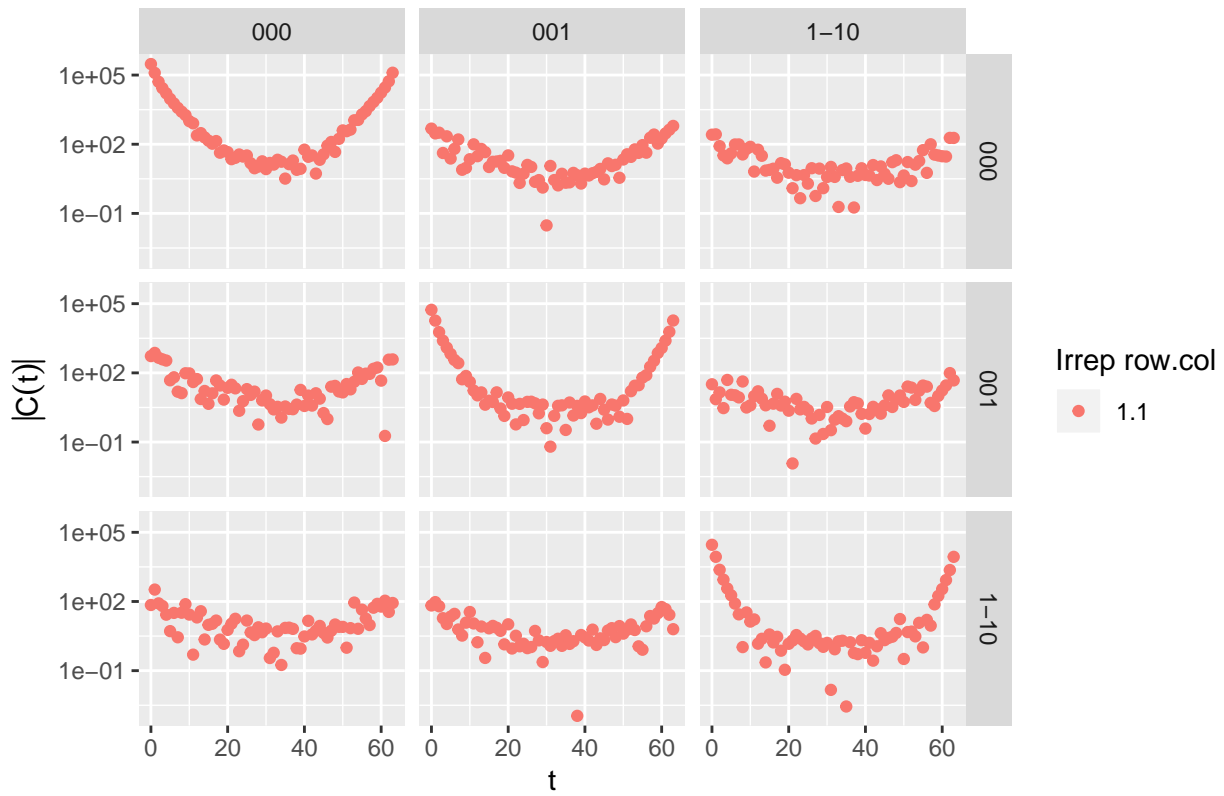
$P^2 = 1$, irrep = E, $P = 010$



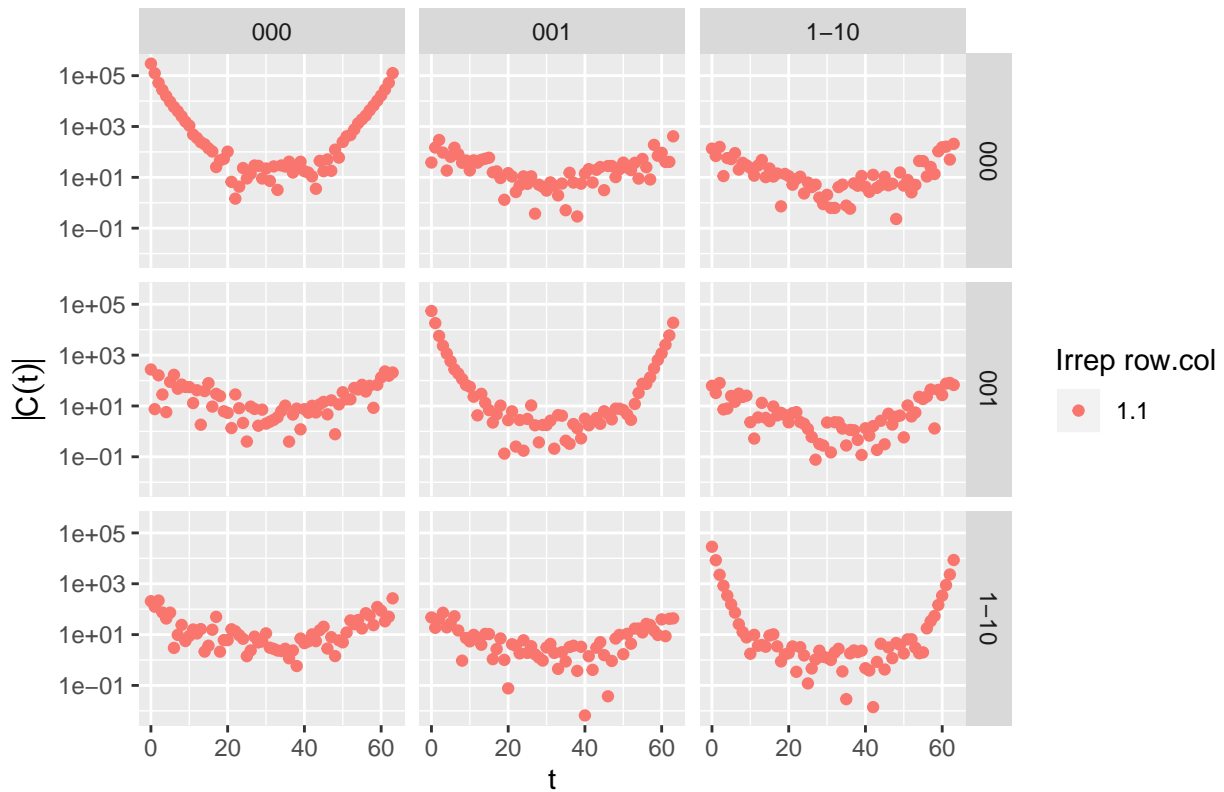
$P^2 = 1$, irrep = E, $P = 100$



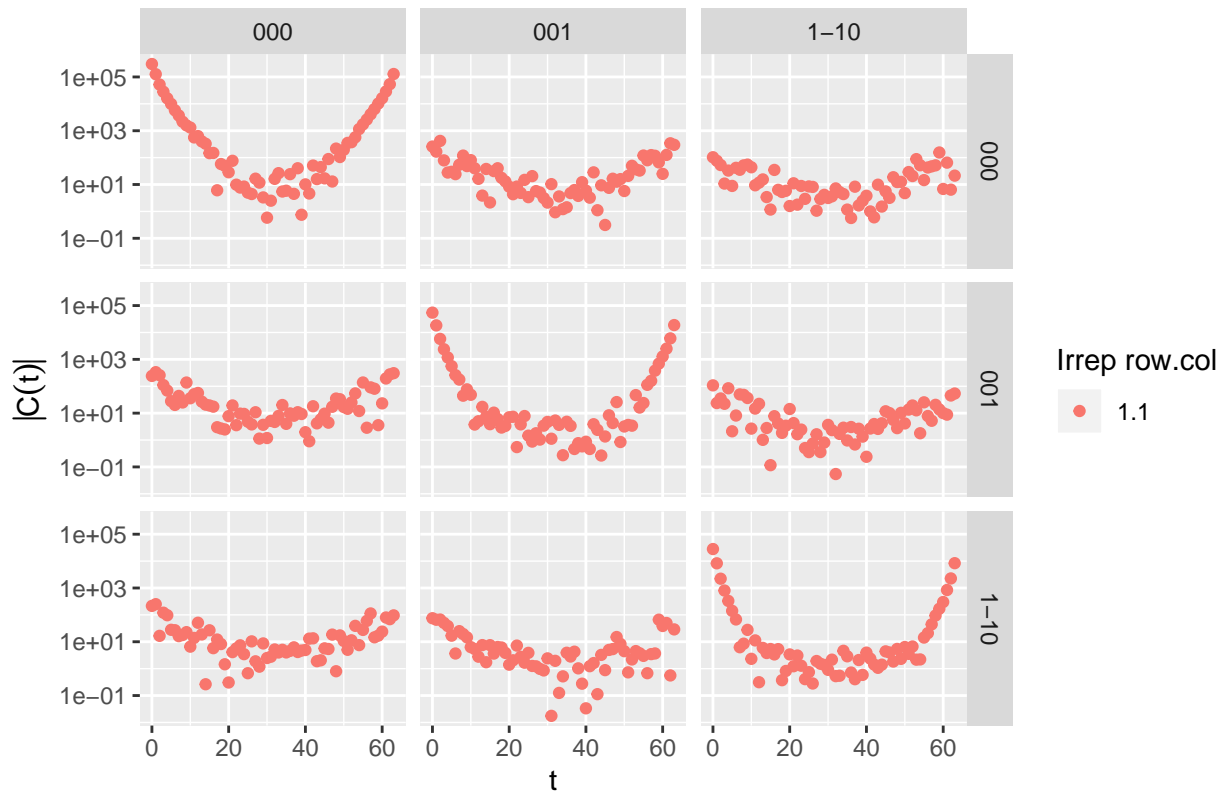
$P^2 = 2$, irrep = A1, $P = -1-10$



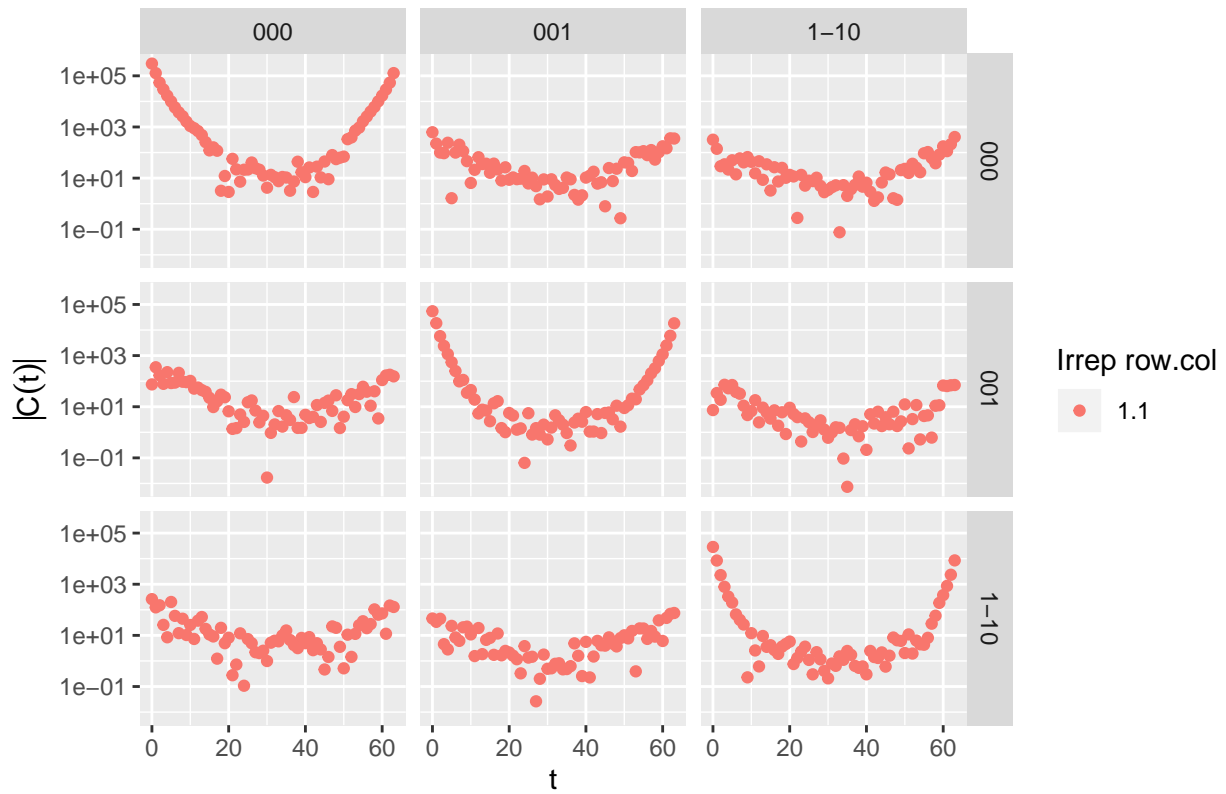
$P^2 = 2$, irrep = A1, $P = -10-1$



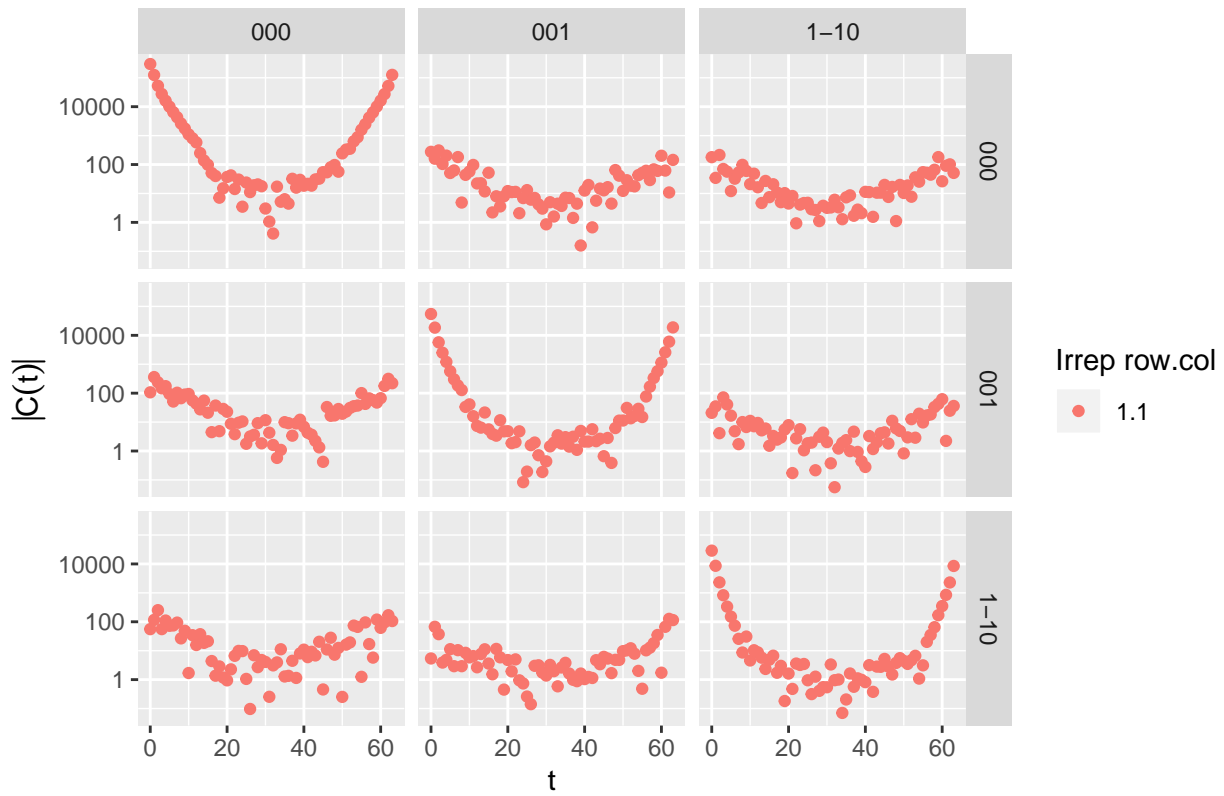
$P^2 = 2$, irrep = A1, $P = -101$



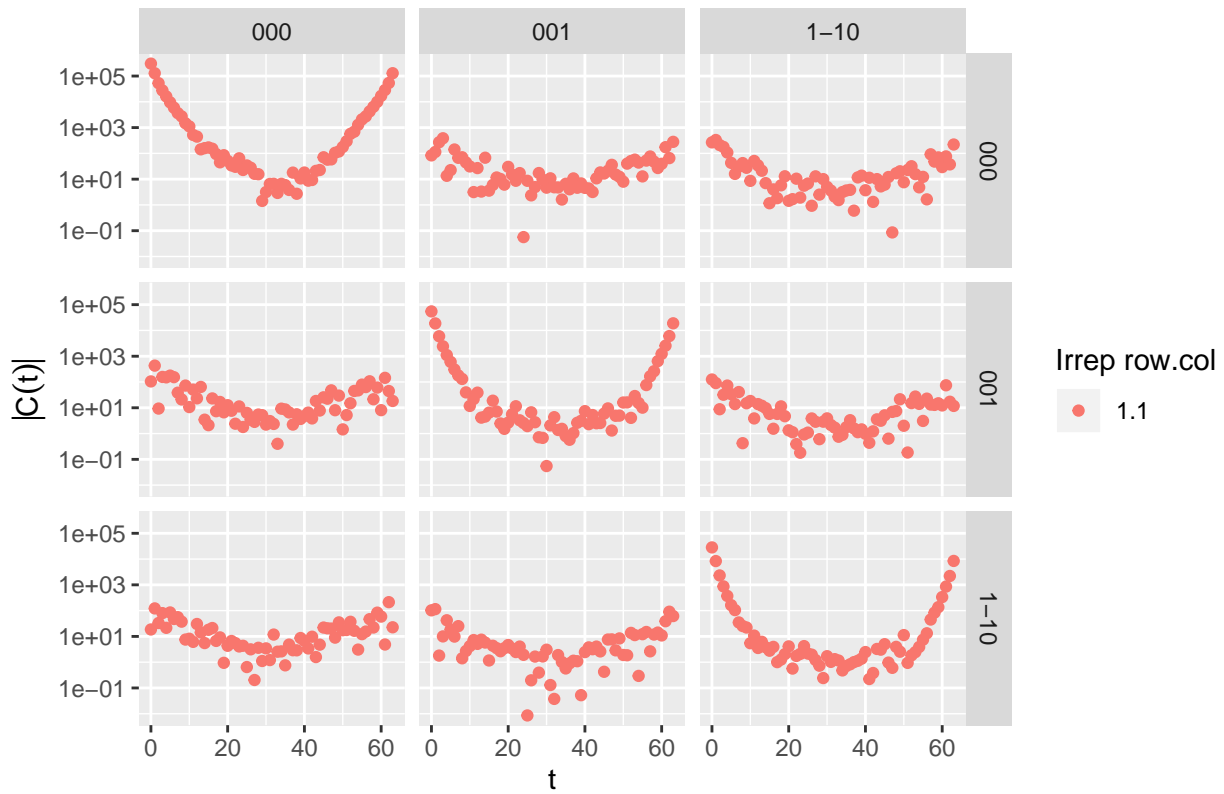
$P^2 = 2$, irrep = A1, $P = -110$



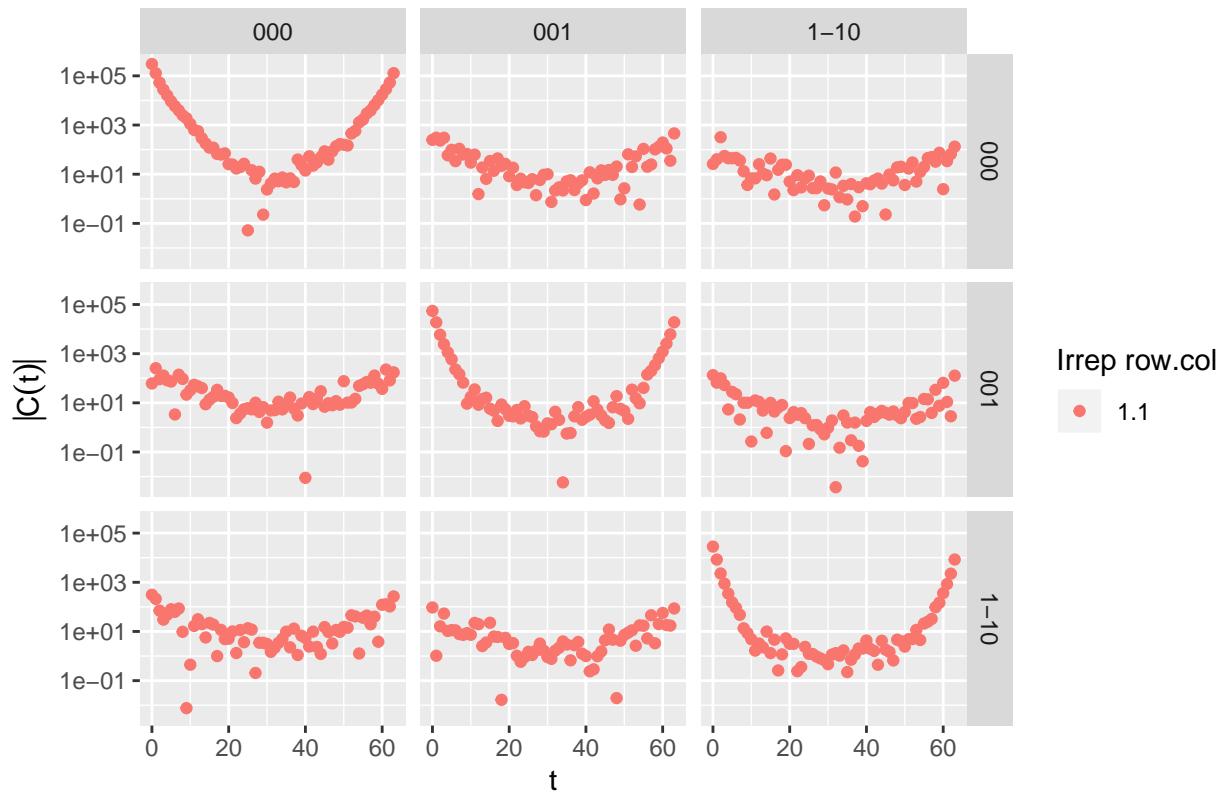
$P^2 = 2$, irrep = A1, $P = 0-1-1$



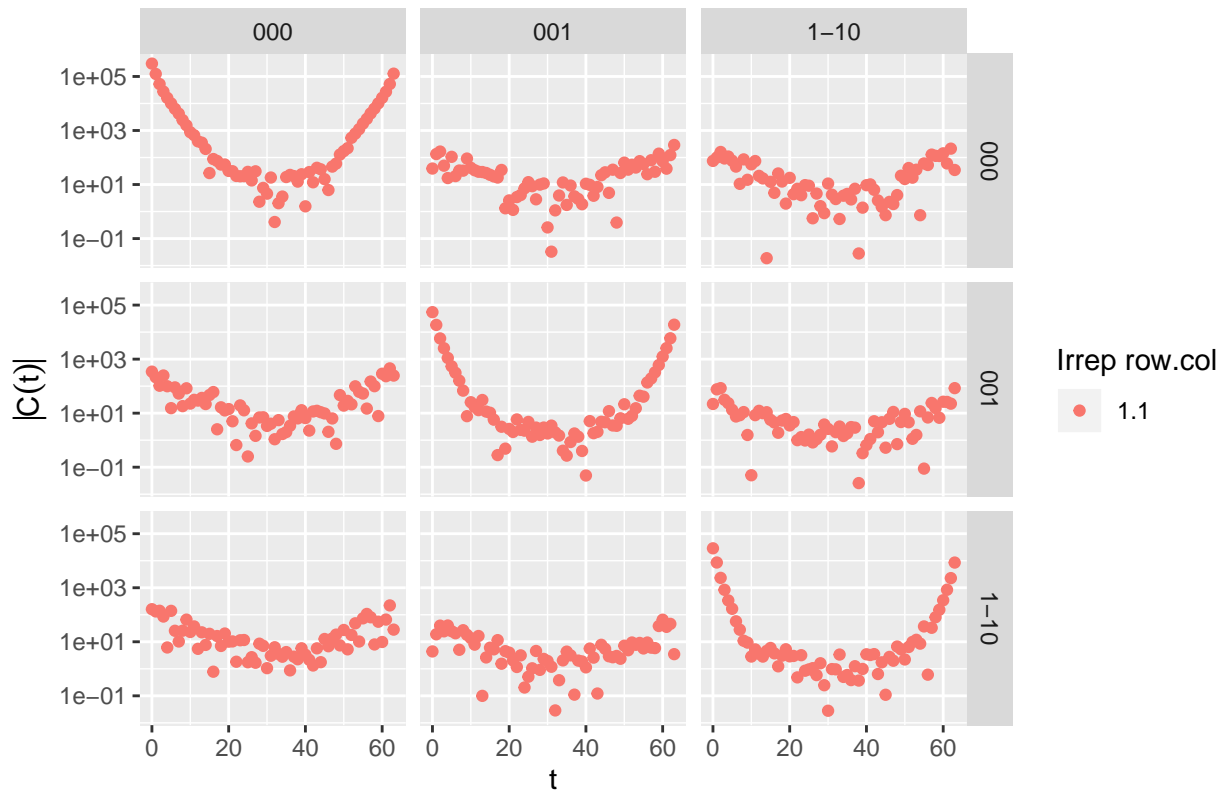
$P^2 = 2$, irrep = A1, $P = 0-1-1$



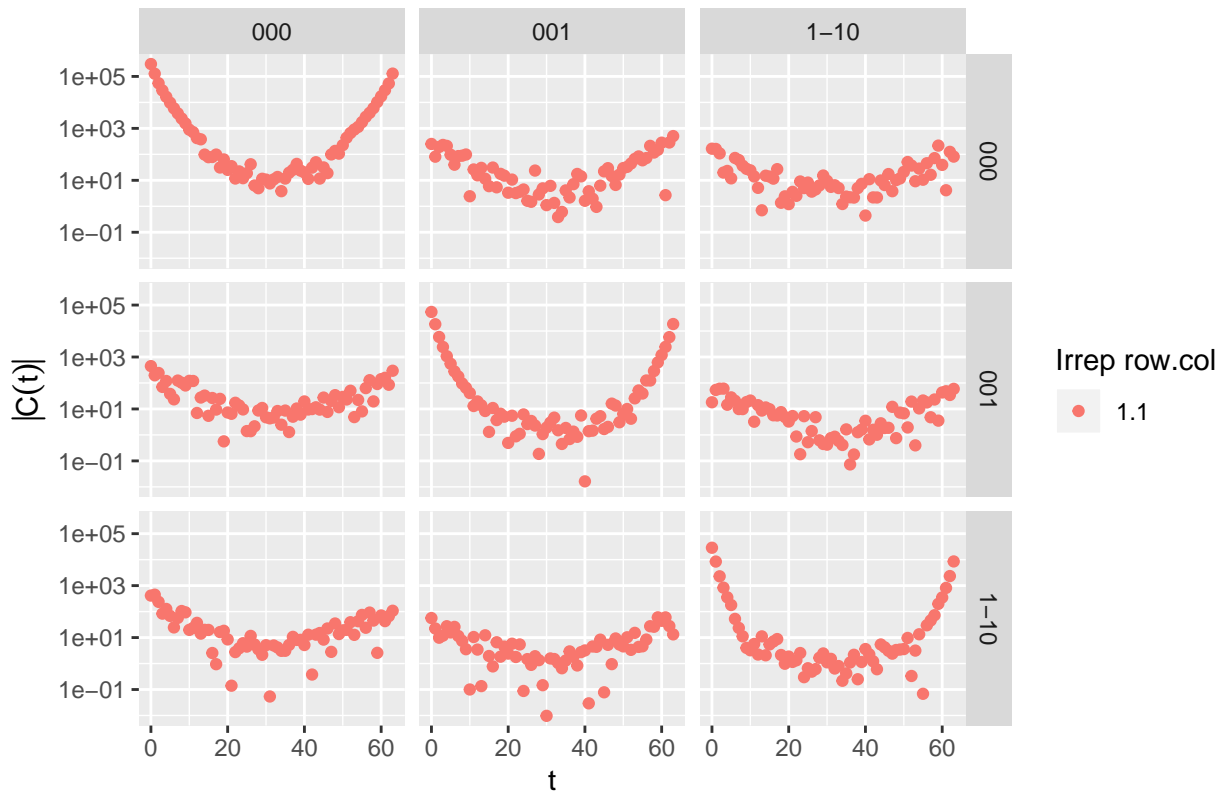
$P^2 = 2$, irrep = A1, $P = 01-1$



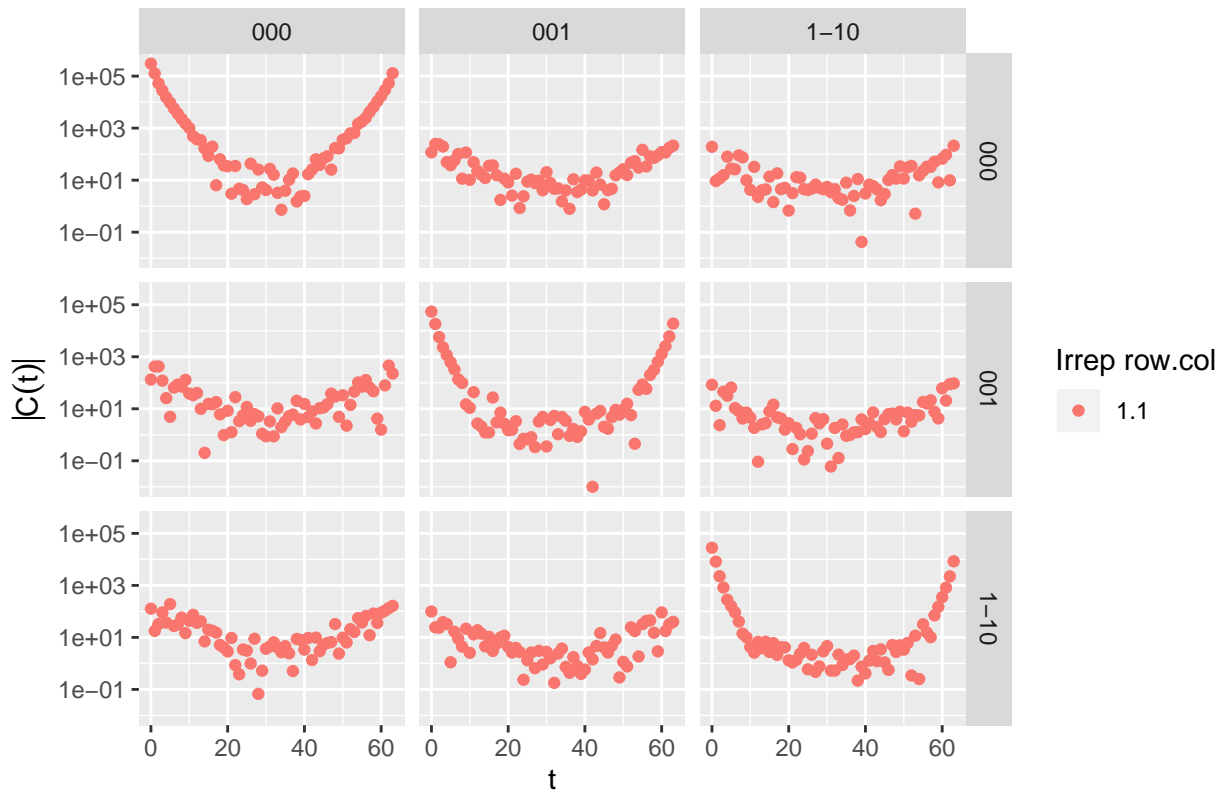
$P^2 = 2$, irrep = A1, $P = 011$



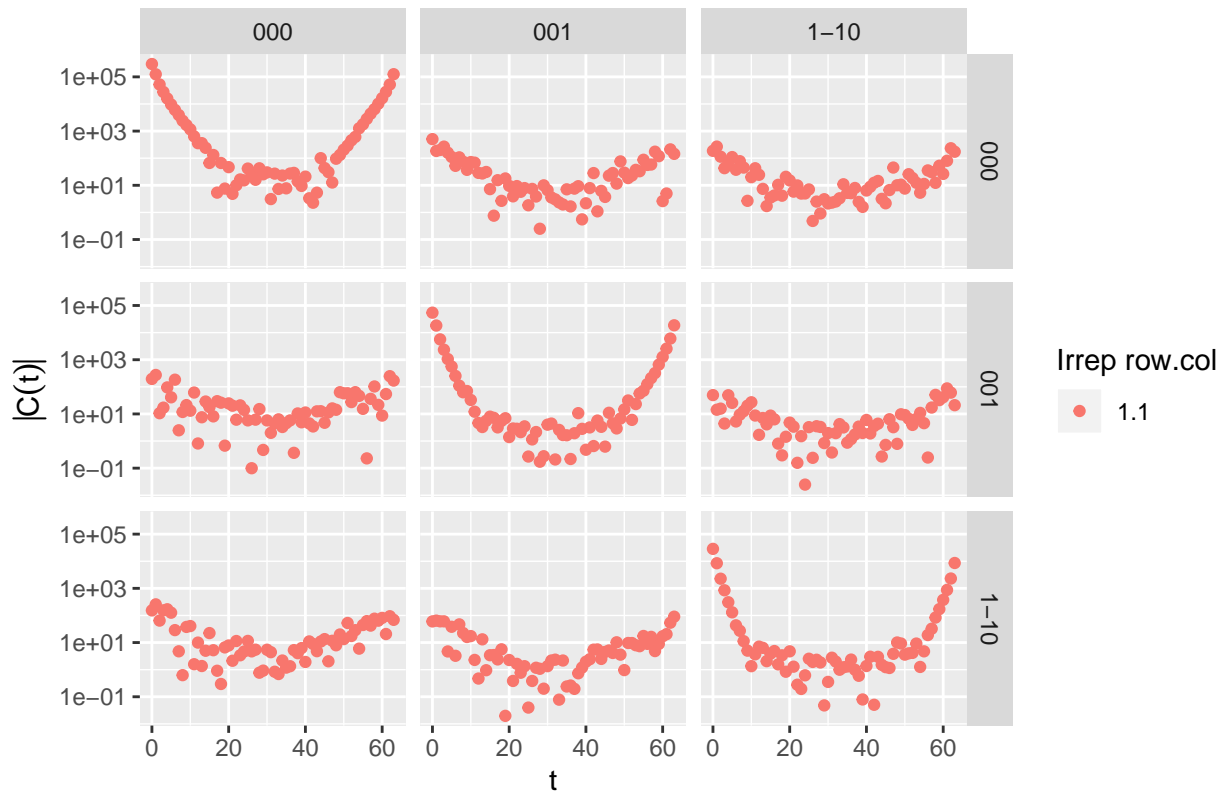
$P^2 = 2$, irrep = A1, P = 1-10



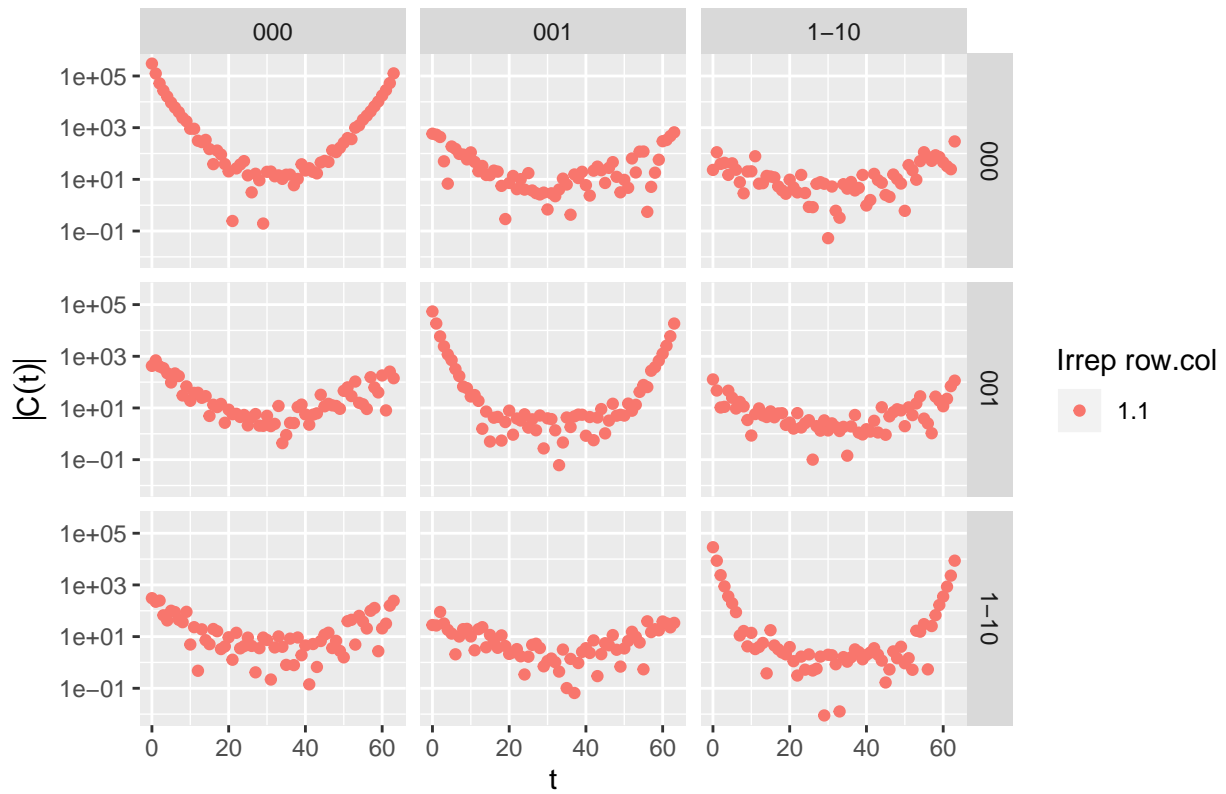
$P^2 = 2$, irrep = A1, P = 10-1



$P^2 = 2$, irrep = A1, $P = 101$



$P^2 = 2$, irrep = A1, $P = 110$



$P^2 = 2$, irrep = B1, $P = -1-10$



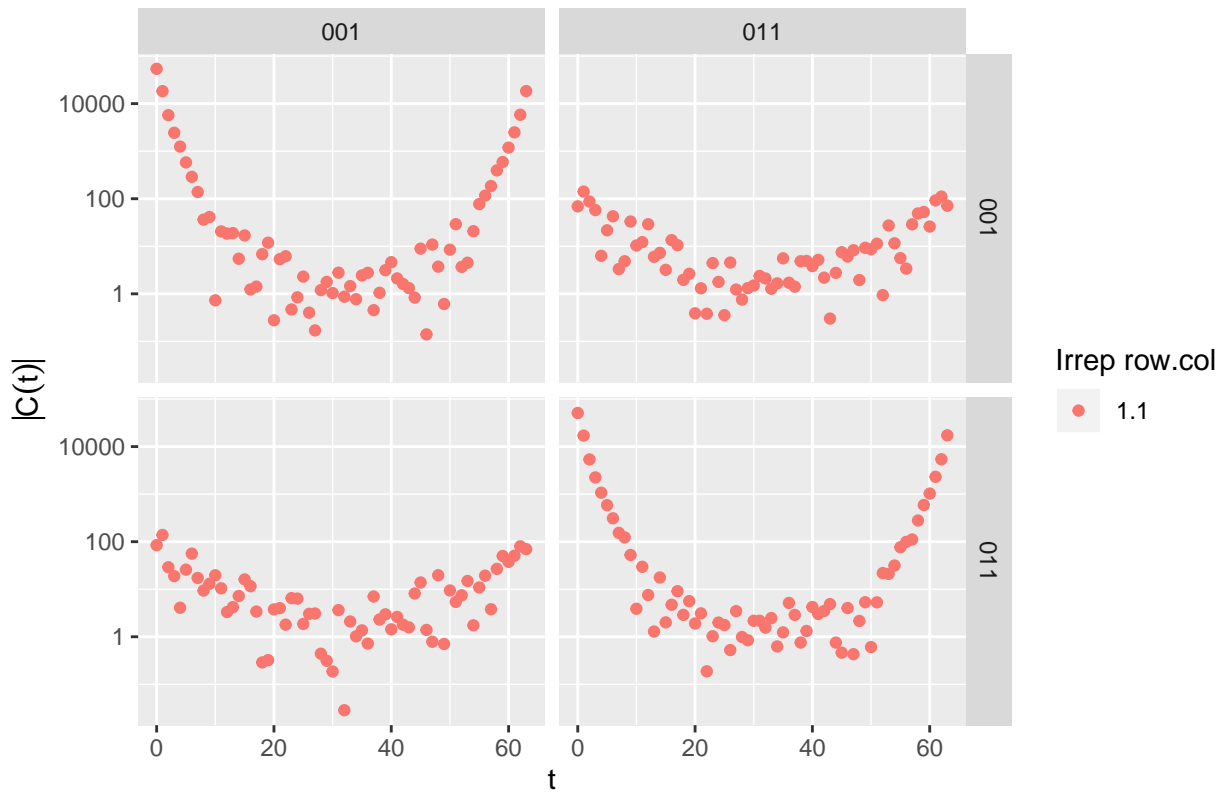
$P^2 = 2$, irrep = B1, $P = -10-1$



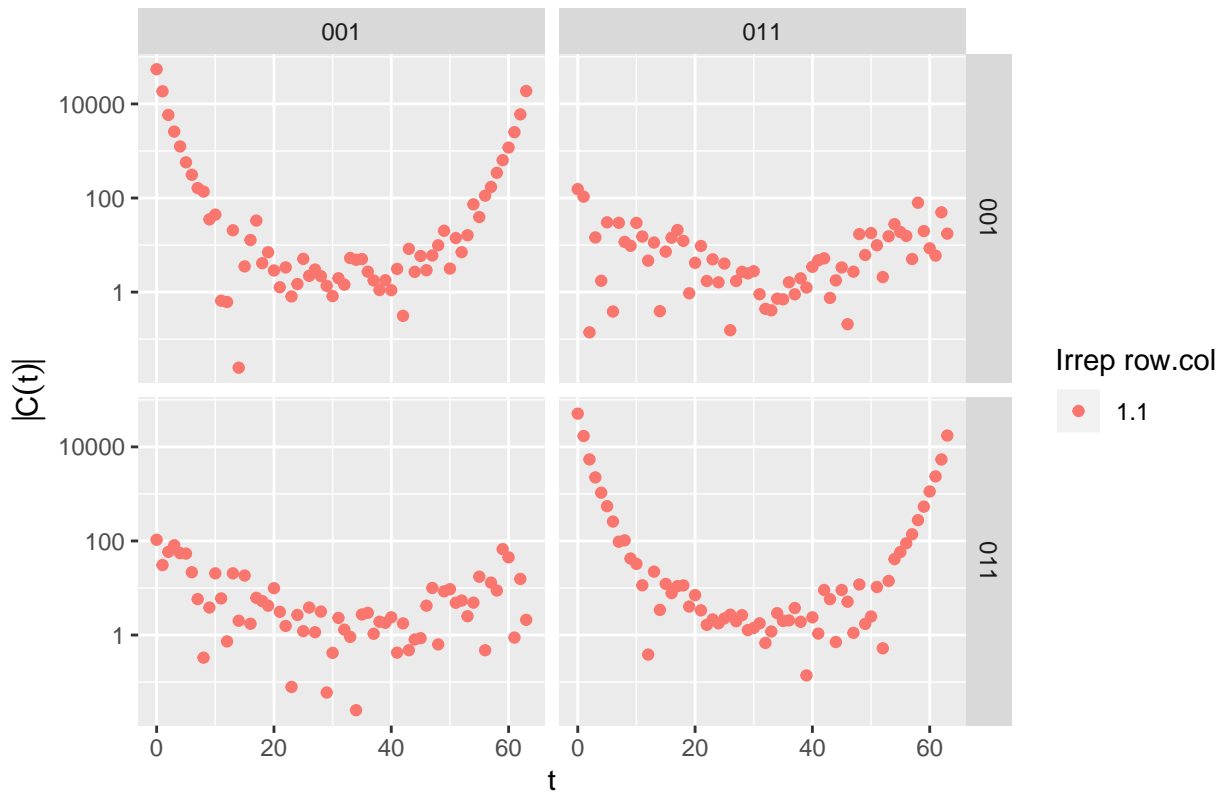
$P^2 = 2$, irrep = B1, $P = -101$



$P^2 = 2$, irrep = B1, $P = -110$



$P^2 = 2$, irrep = B1, $P = 0-1-1$



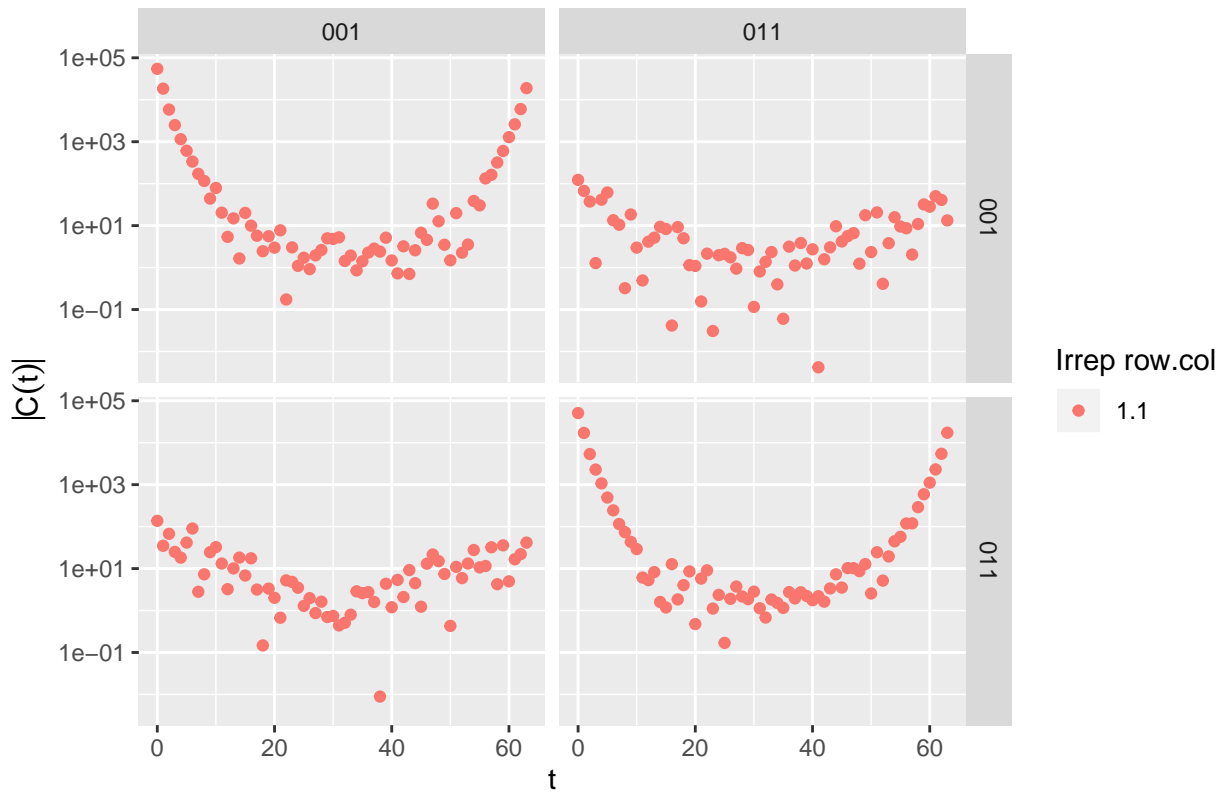
$P^2 = 2$, irrep = B1, $P = 0-1-1$



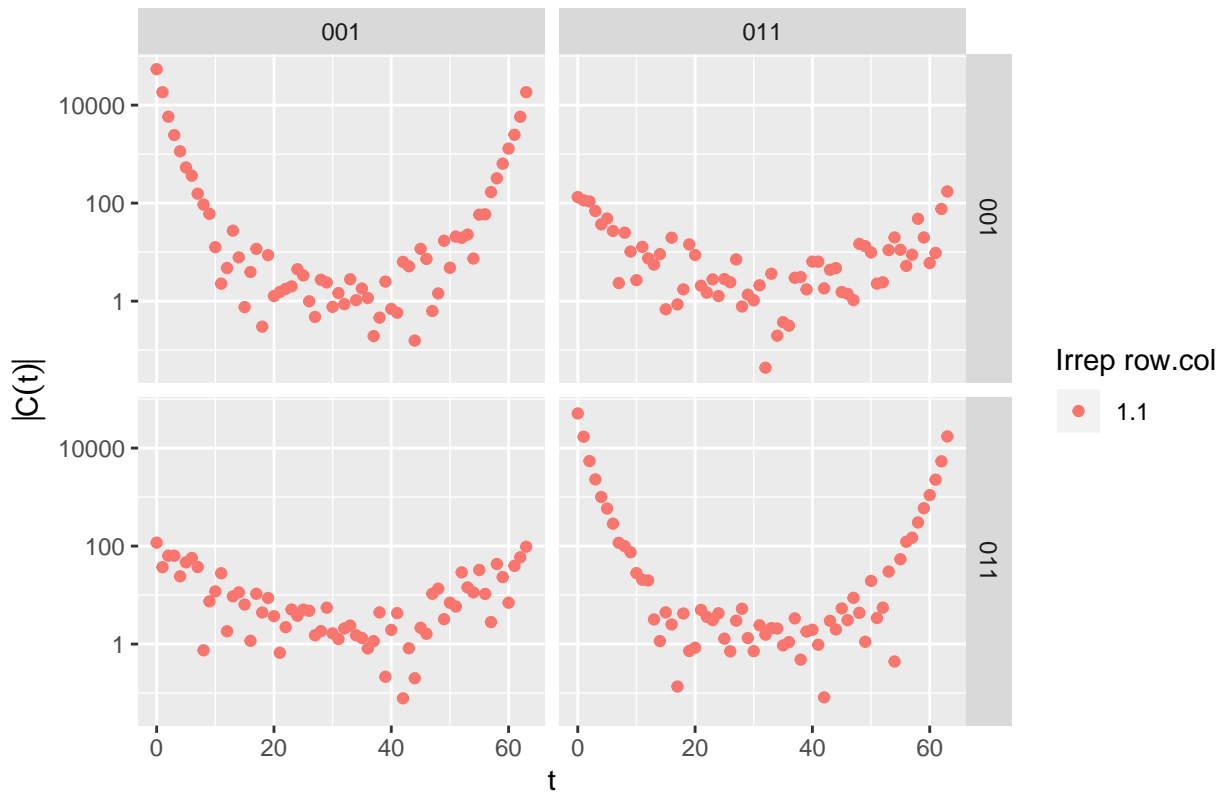
$P^2 = 2$, irrep = B1, $P = 01-1$



$P^2 = 2$, irrep = B1, $P = 011$



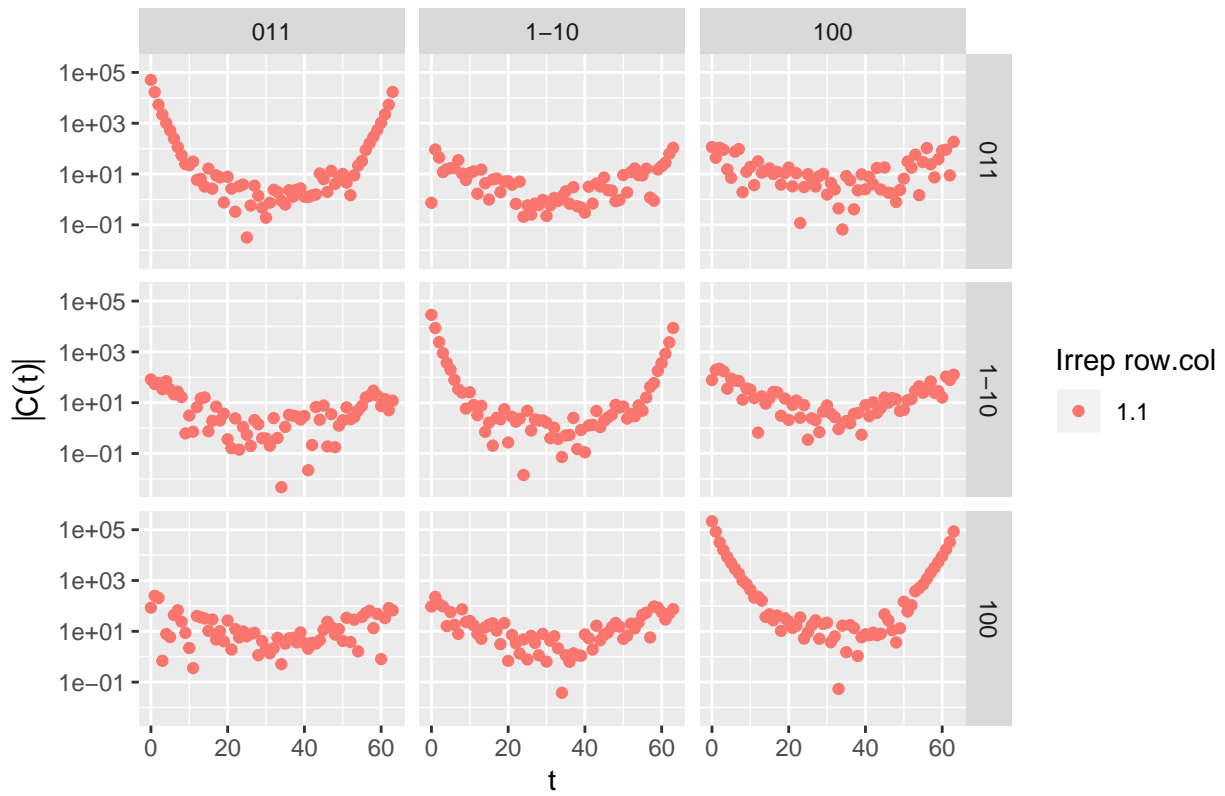
$P^2 = 2$, irrep = B1, $P = 1-10$



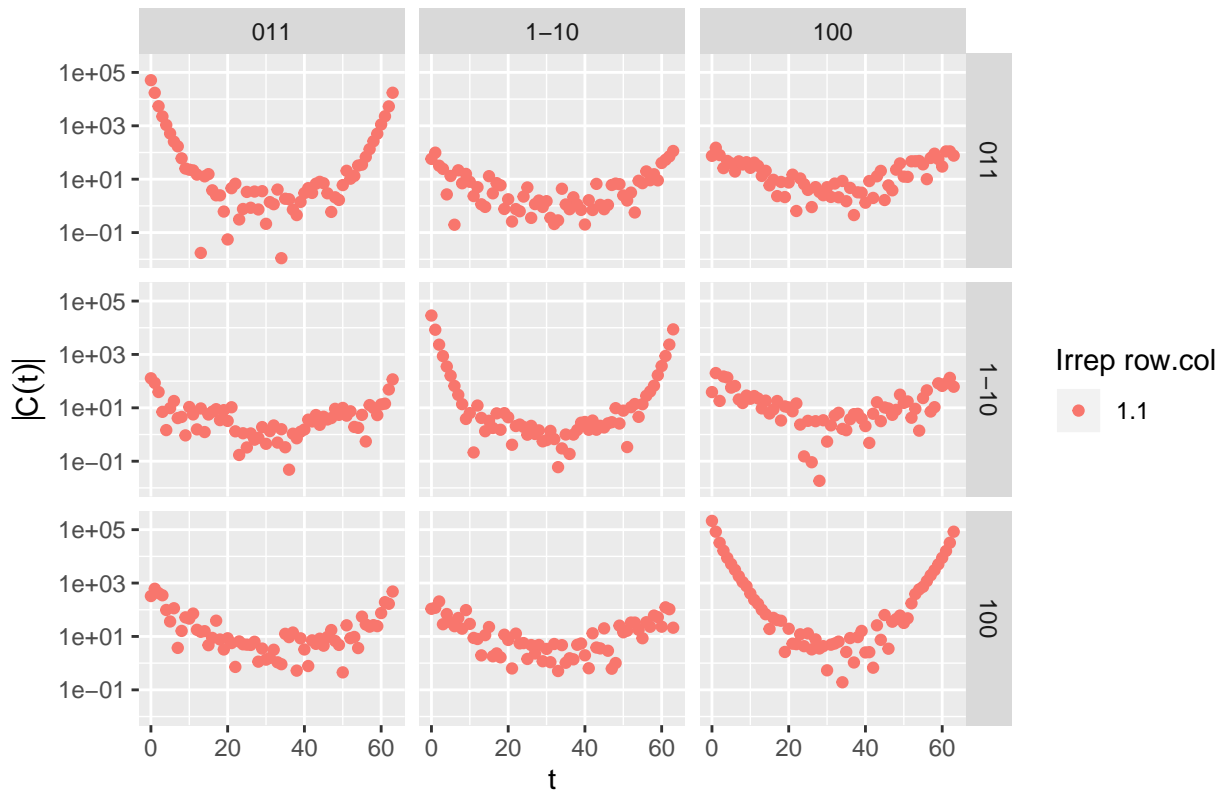
$P^2 = 2$, irrep = B1, $P = 10-1$



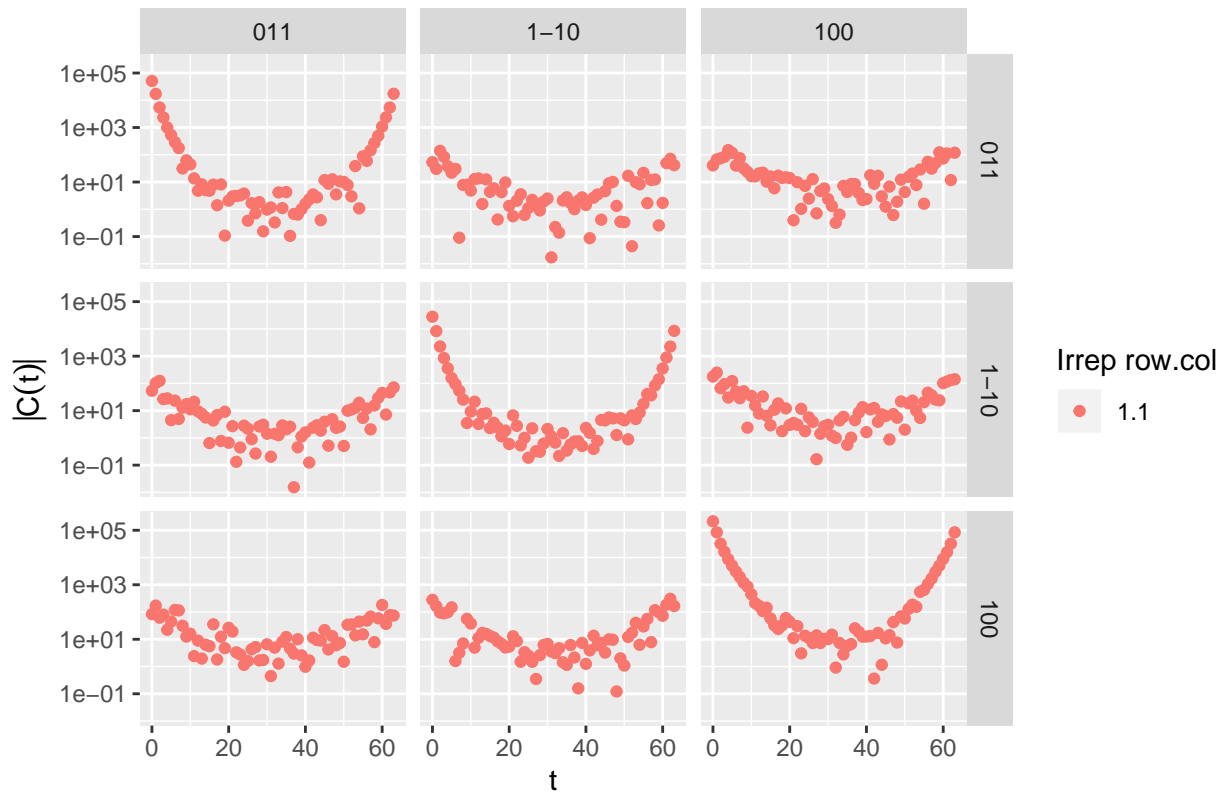
$P^2 = 2$, irrep = B2, $P = -1-10$



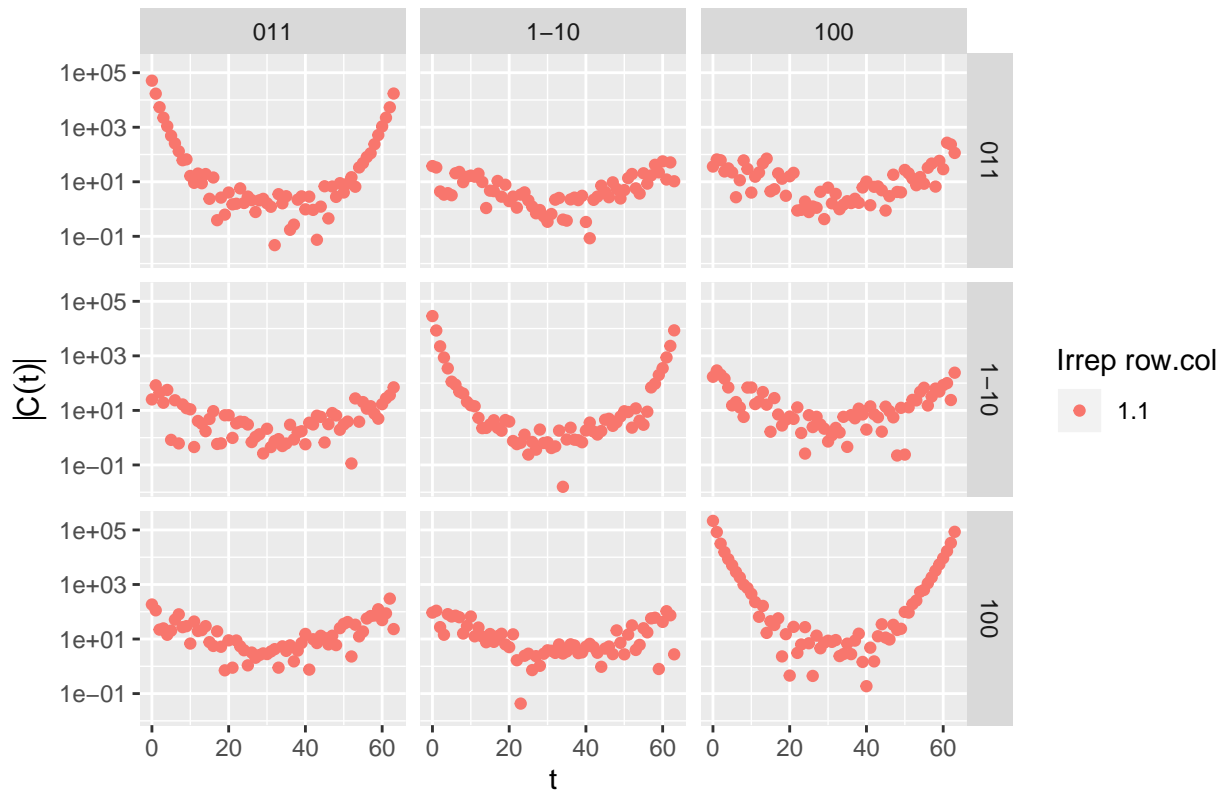
$P^2 = 2$, irrep = B2, $P = -10-1$



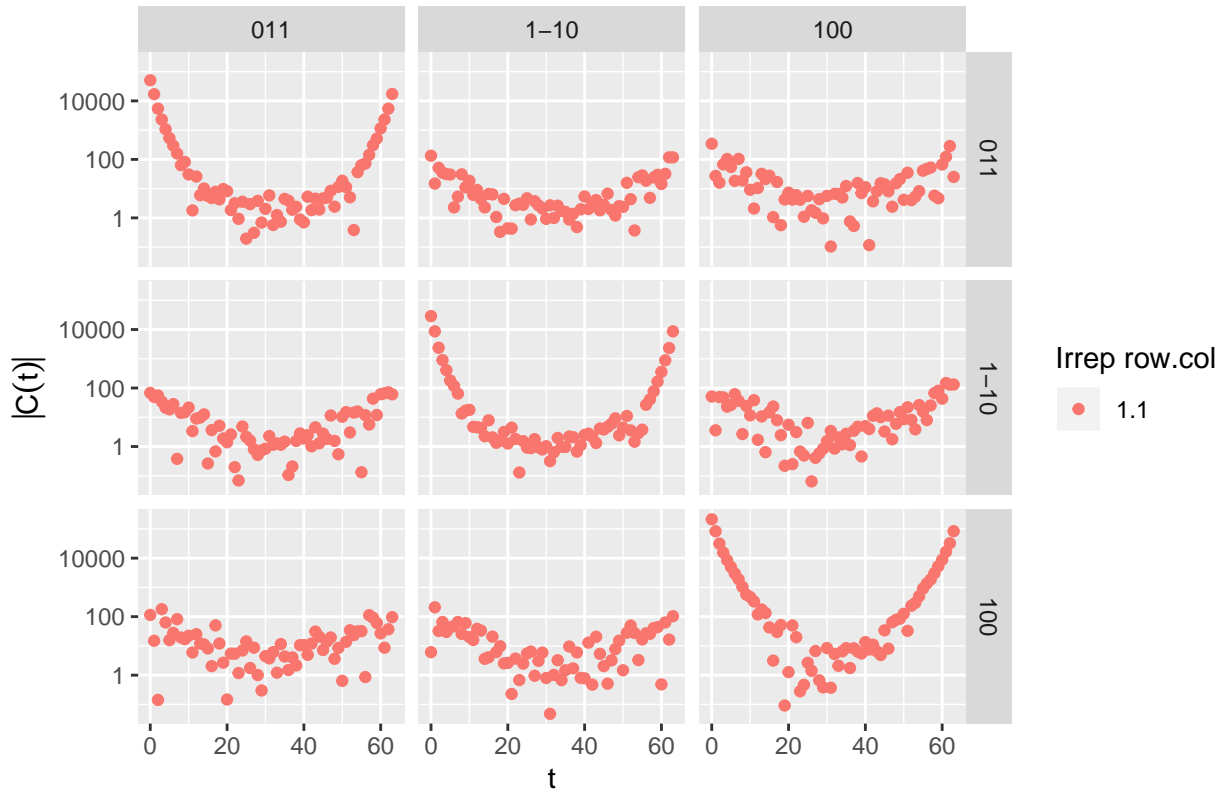
$P^2 = 2$, irrep = B2, $P = -101$



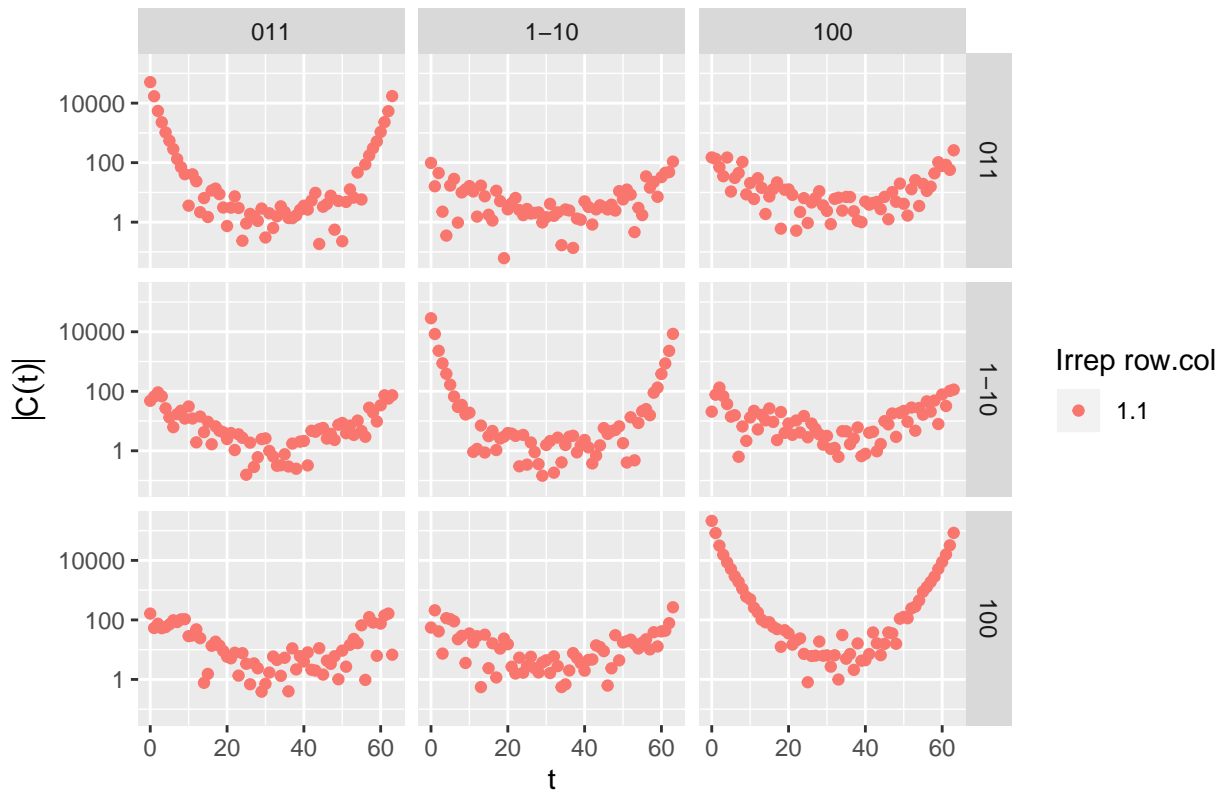
$P^2 = 2$, irrep = B2, $P = -110$



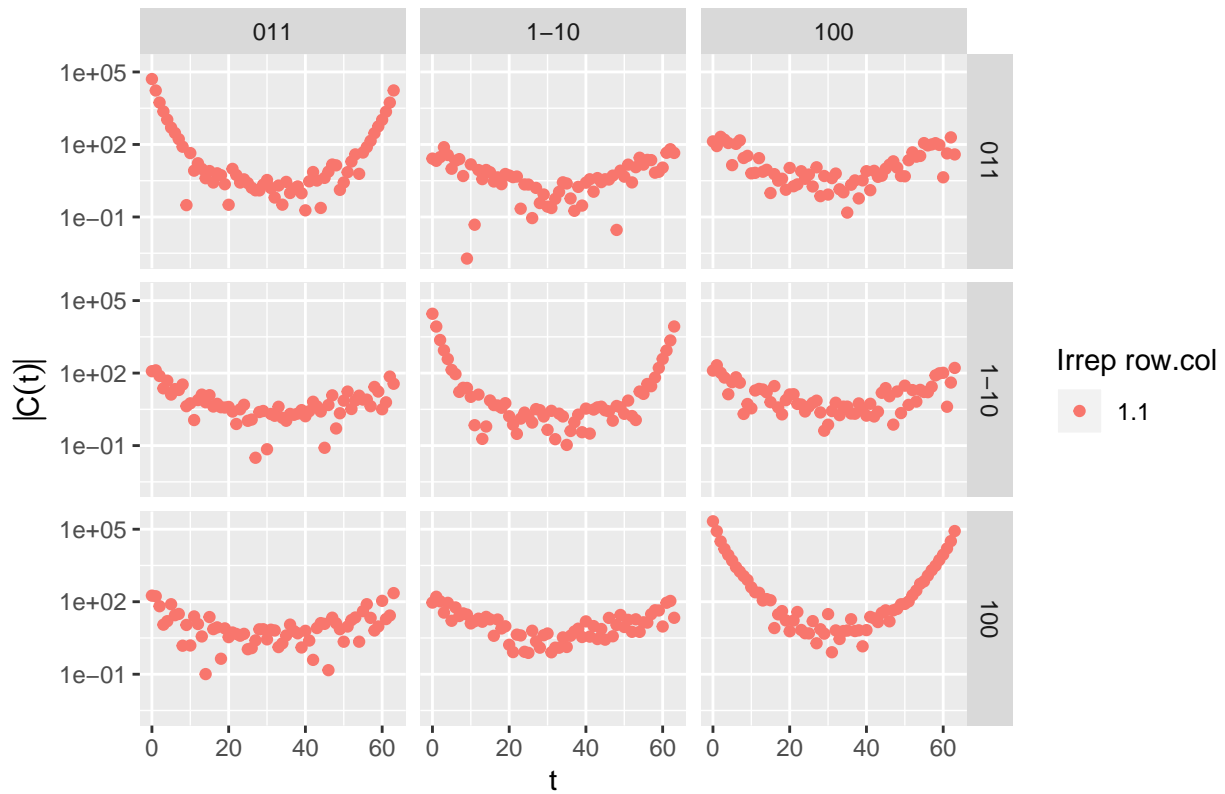
$P^2 = 2$, irrep = B2, $P = 0-1-1$



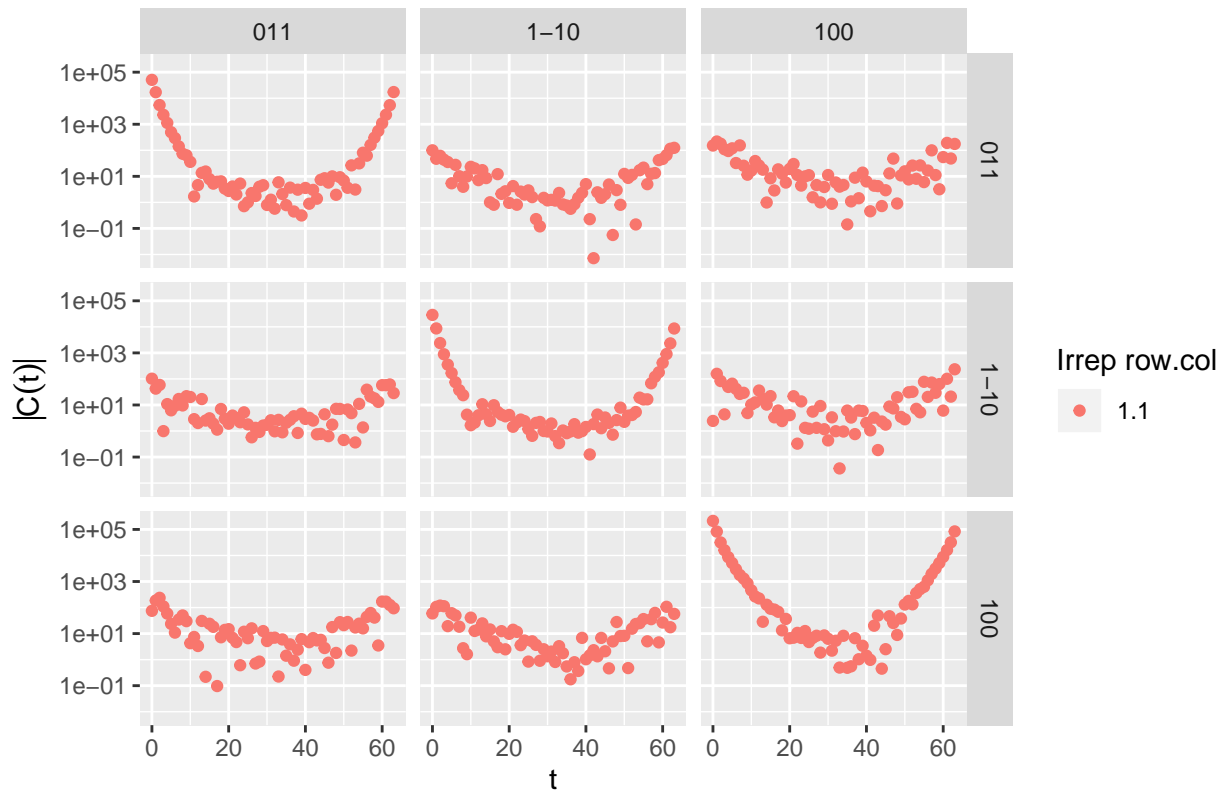
$P^2 = 2$, irrep = B2, $P = 0-1-1$



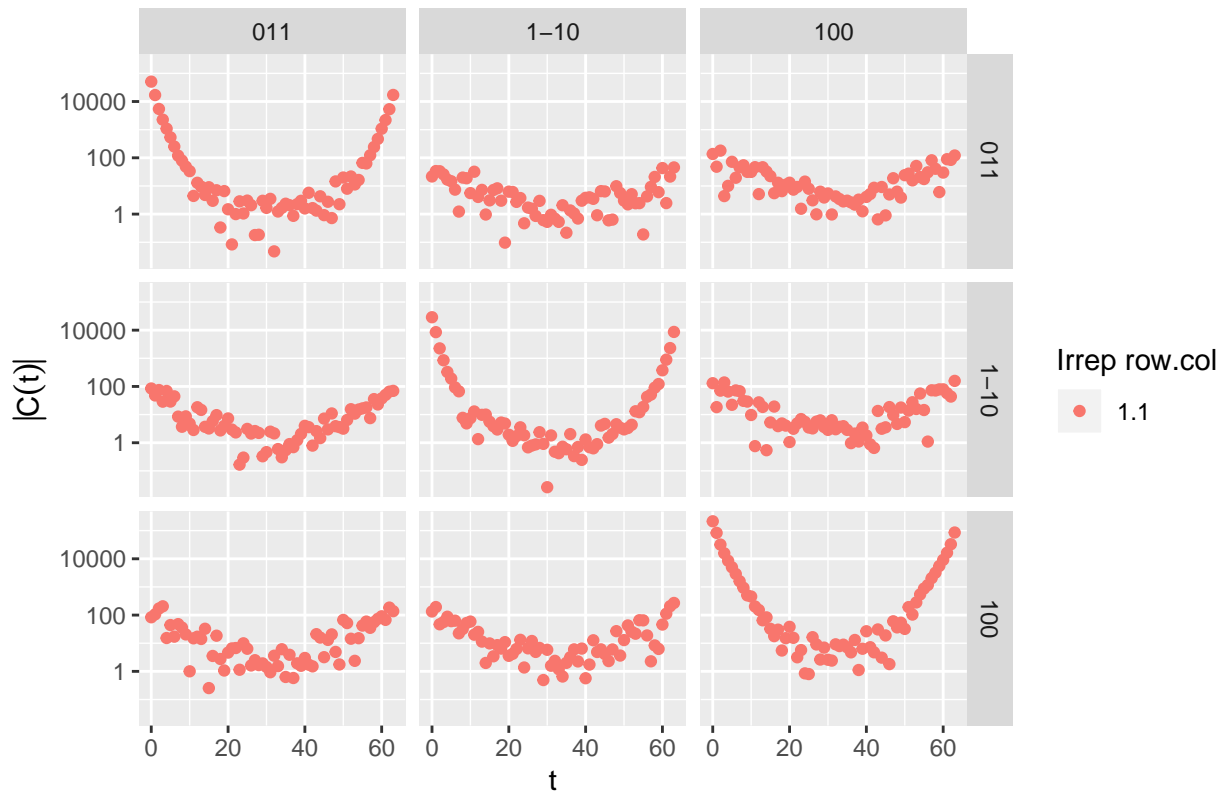
$P^2 = 2$, irrep = B2, $P = 01-1$



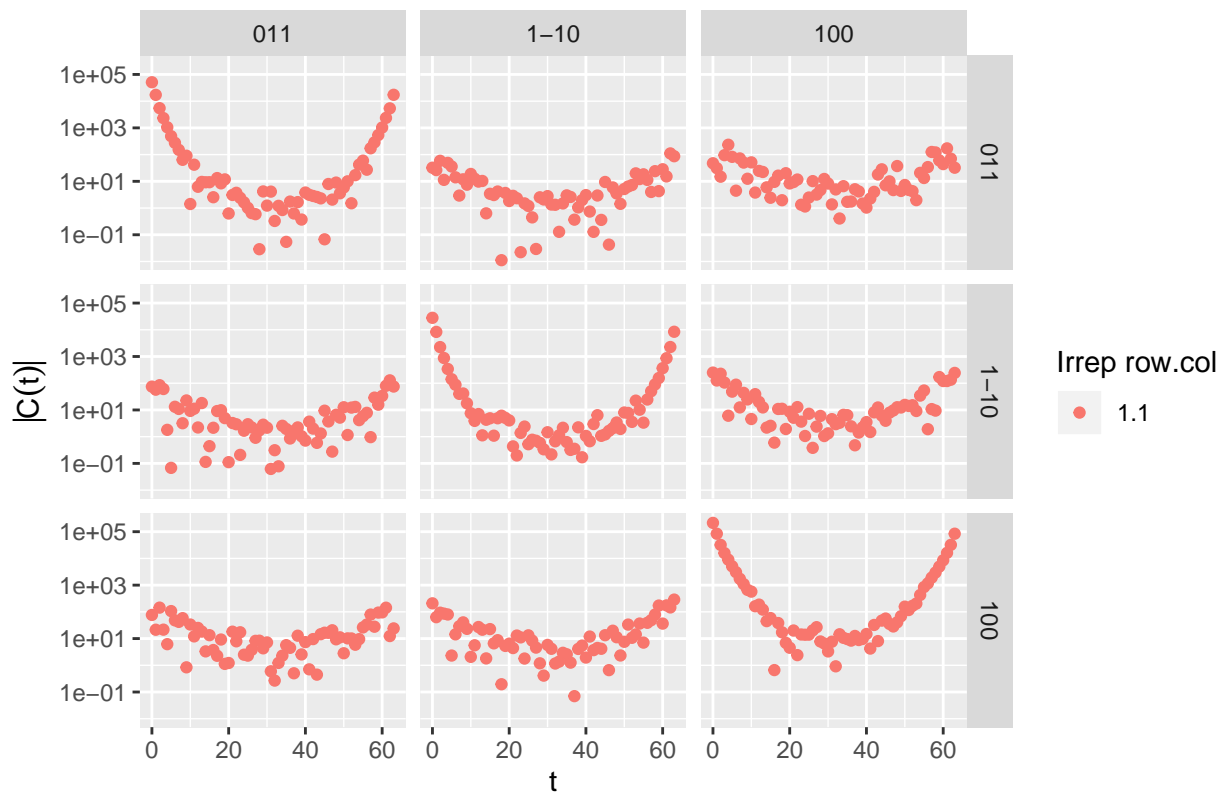
$P^2 = 2$, irrep = B2, $P = 011$



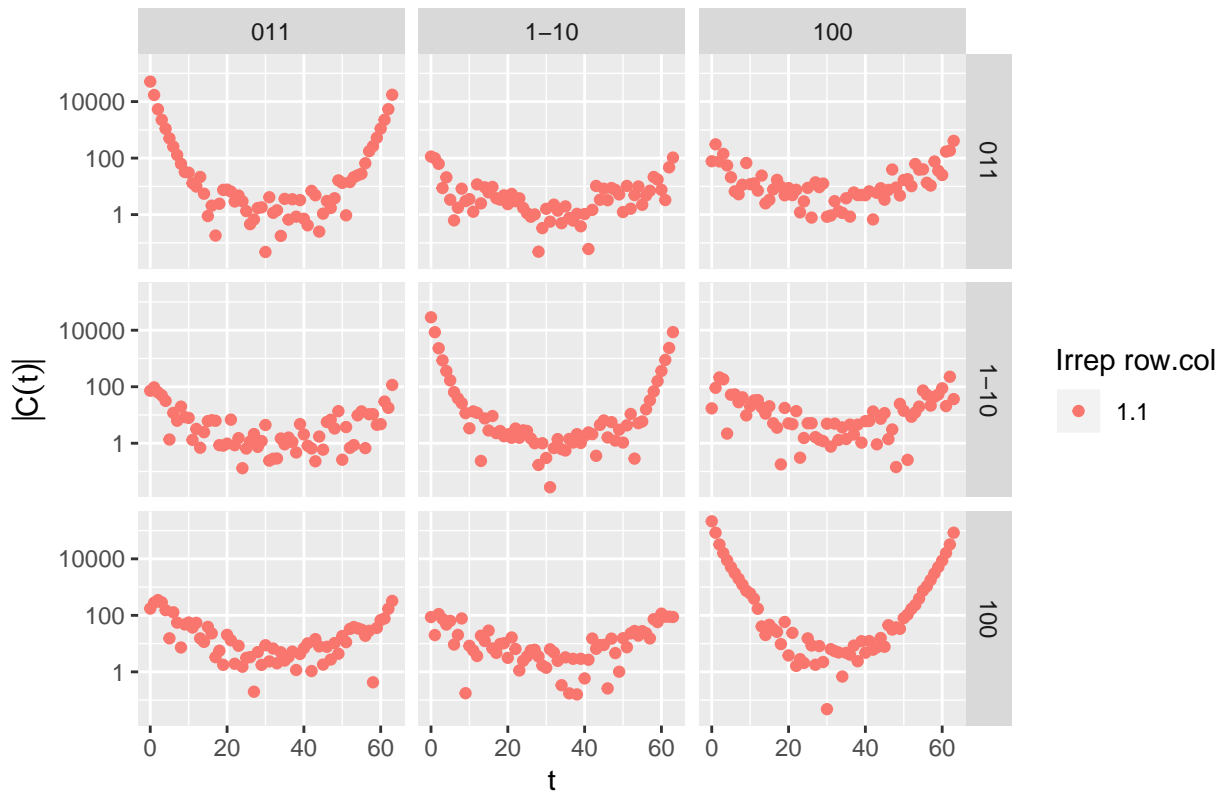
$P^2 = 2$, irrep = B2, $P = 1-10$



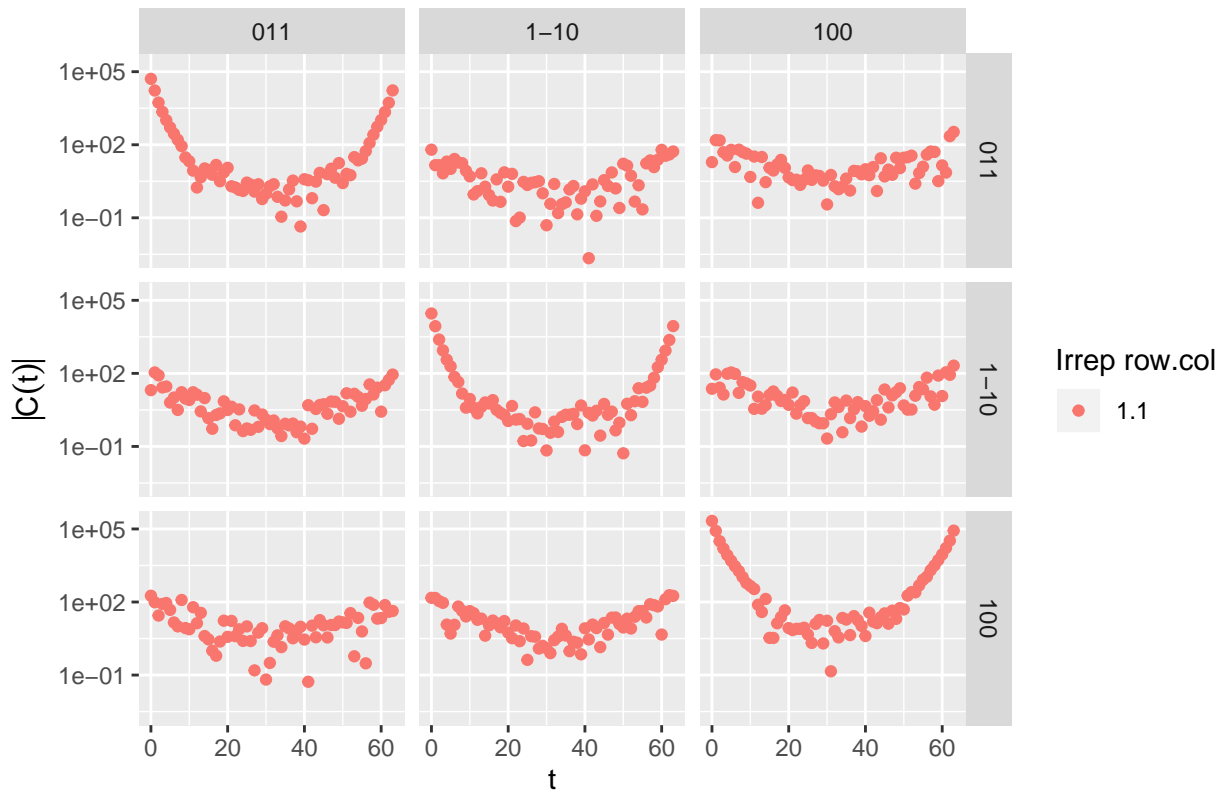
$P^2 = 2$, irrep = B2, $P = 10-1$



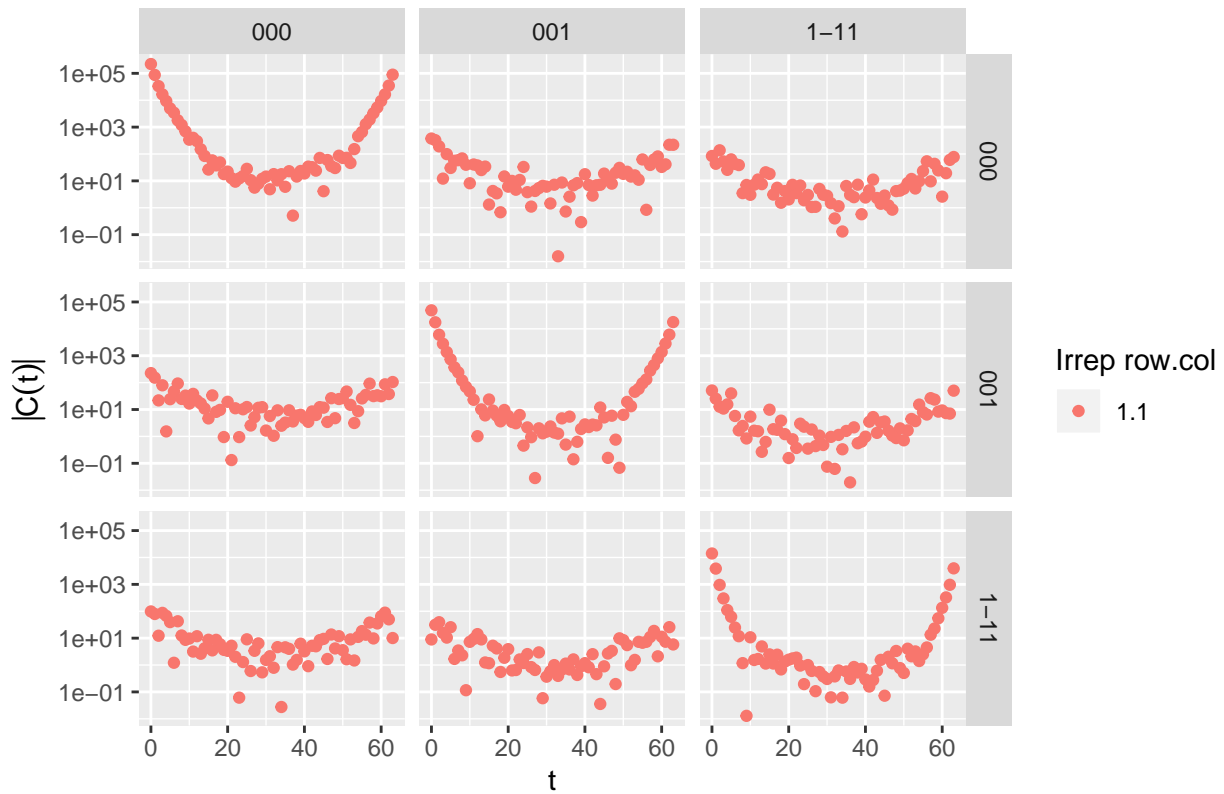
$P^2 = 2$, irrep = B2, $P = 101$



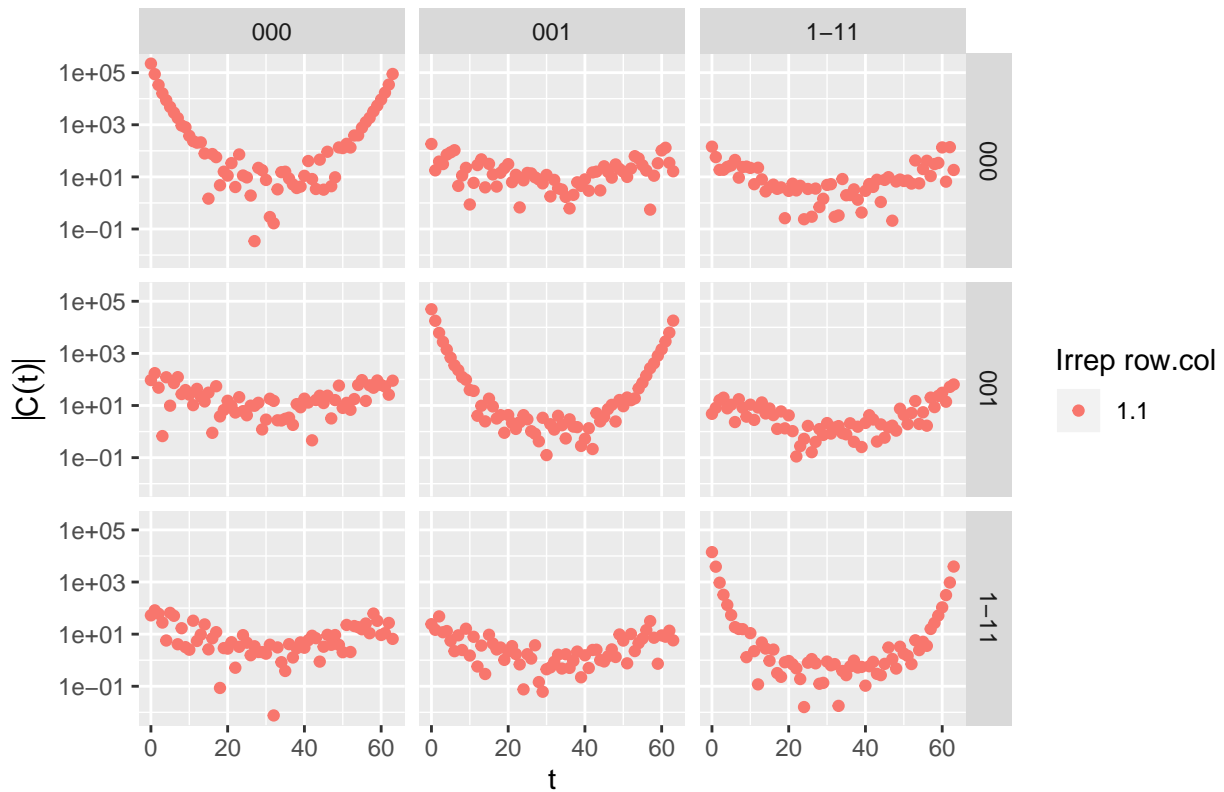
$P^2 = 2$, irrep = B2, $P = 110$



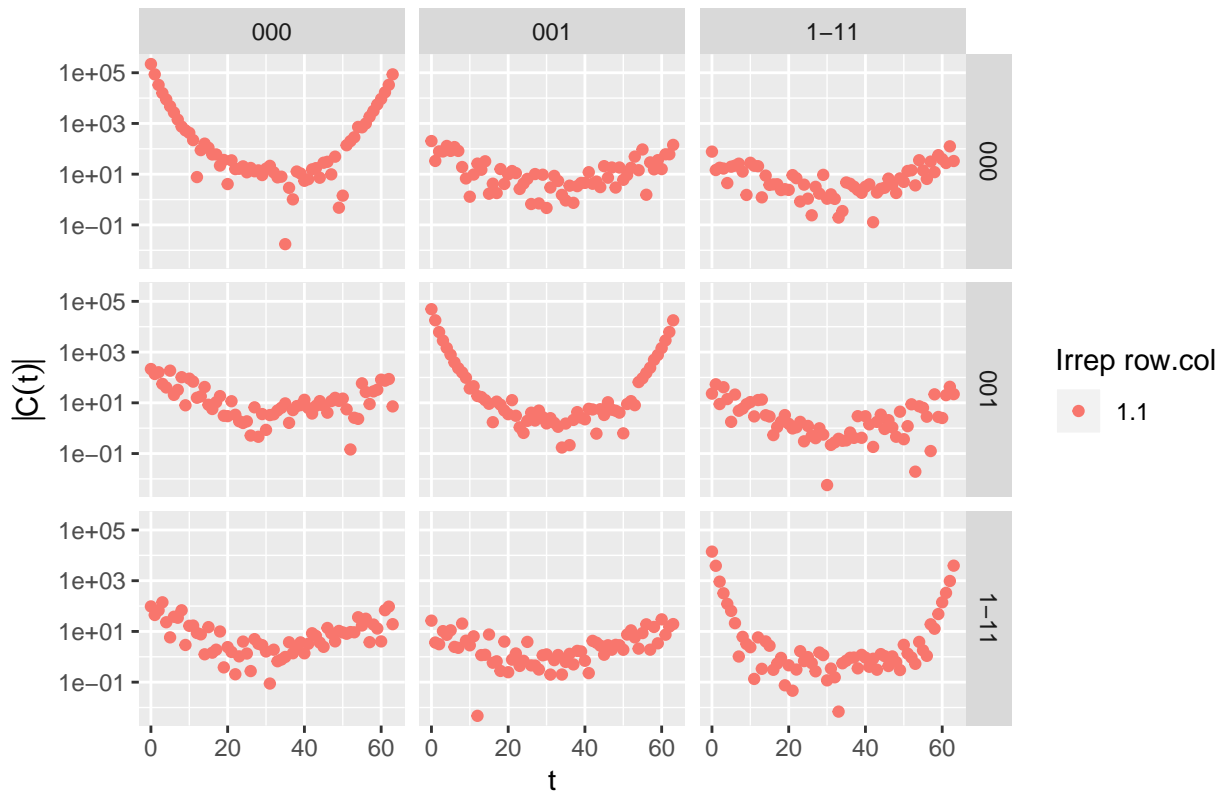
$P^2 = 3$, irrep = A1, $P = -1-1-1$



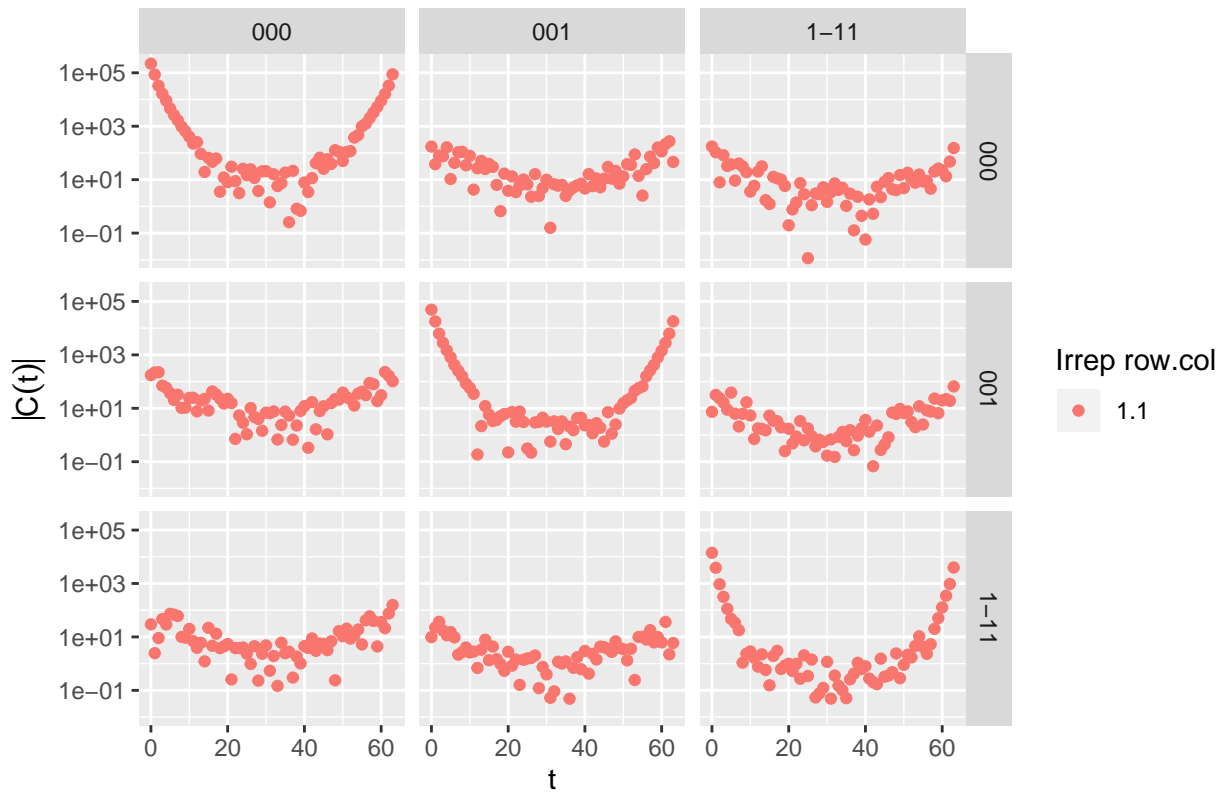
$P^2 = 3$, irrep = A1, $P = -1-11$



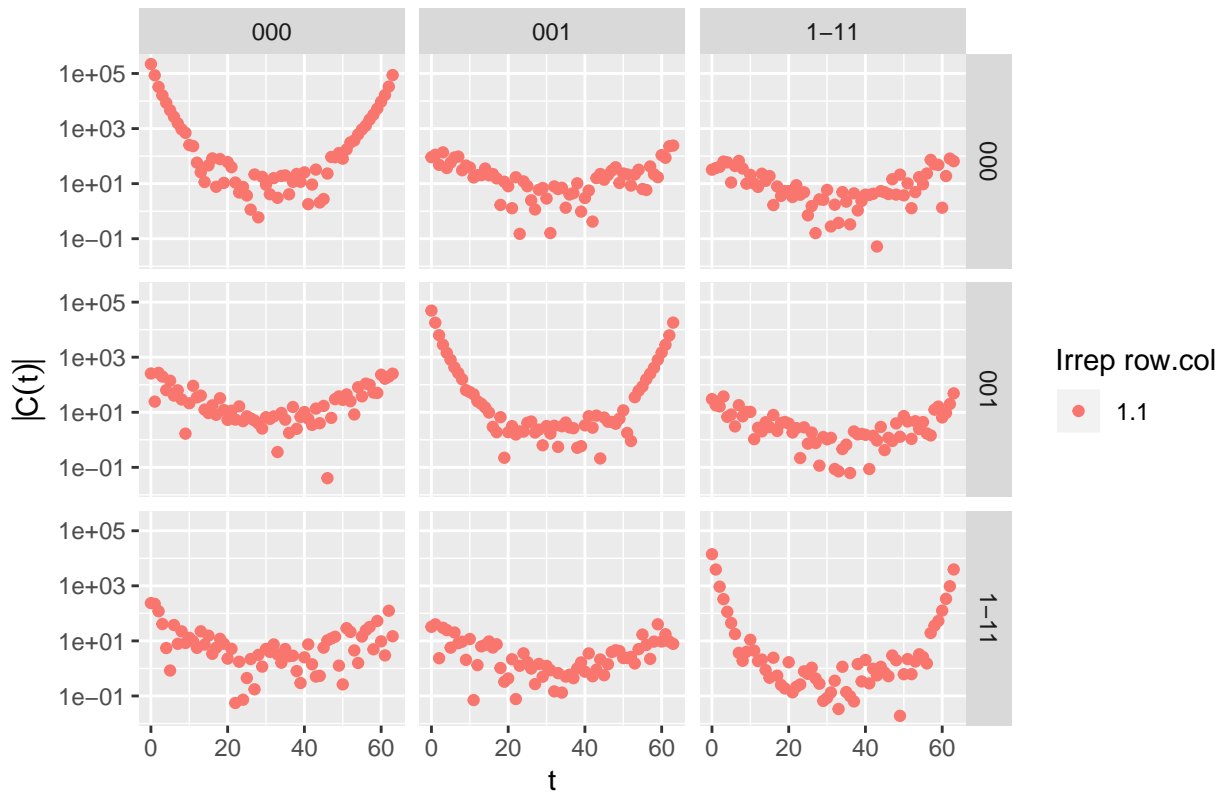
$P^2 = 3$, irrep = A1, $P = -11-1$



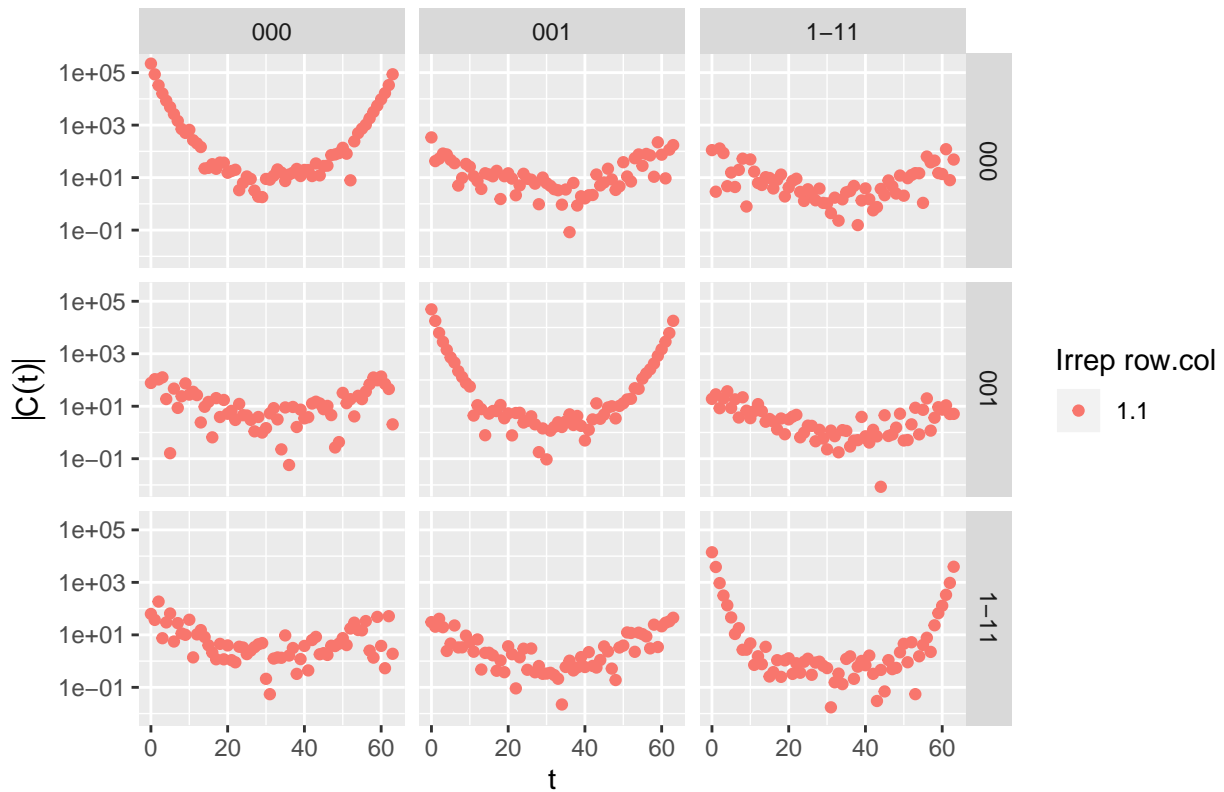
$P^2 = 3$, irrep = A1, $P = -111$



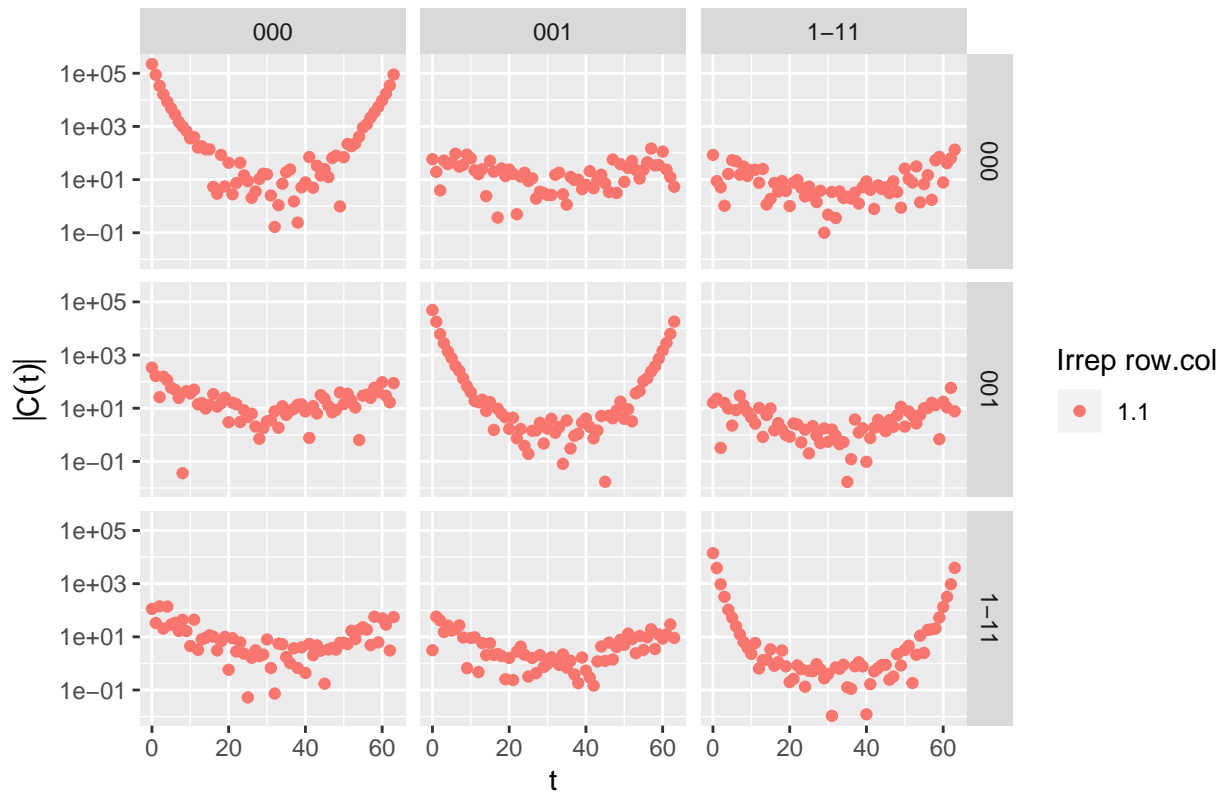
$P^2 = 3$, irrep = A1, $P = 1-1-1$



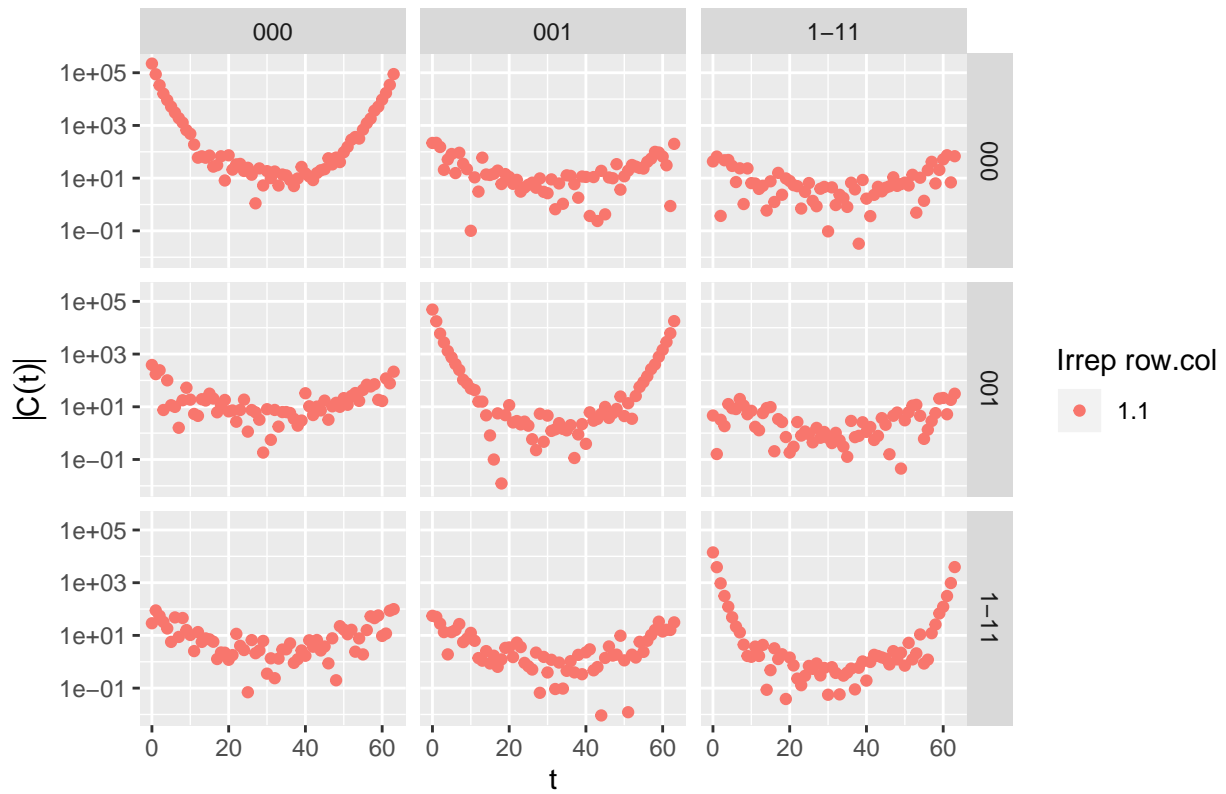
$P^2 = 3$, irrep = A1, $P = 1-11$



$P^2 = 3$, irrep = A1, $P = 11-1$

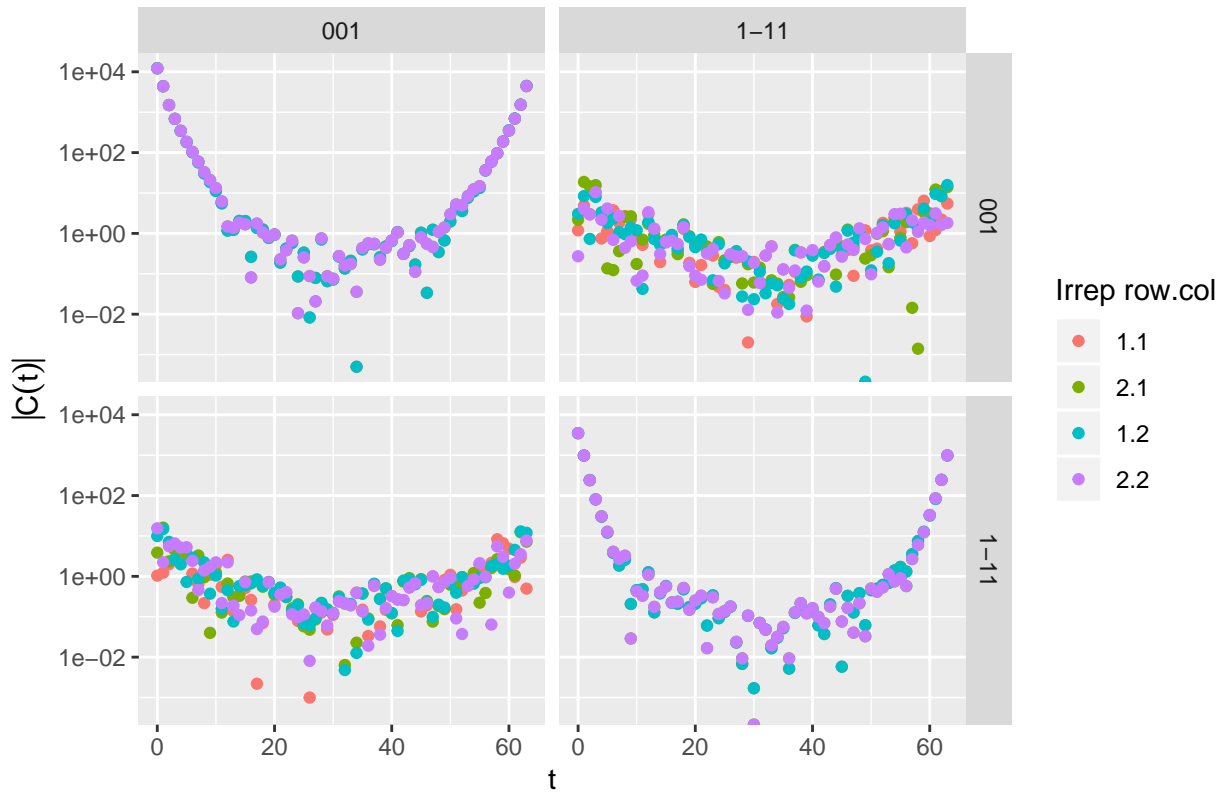


$P^2 = 3$, irrep = A1, $P = 111$

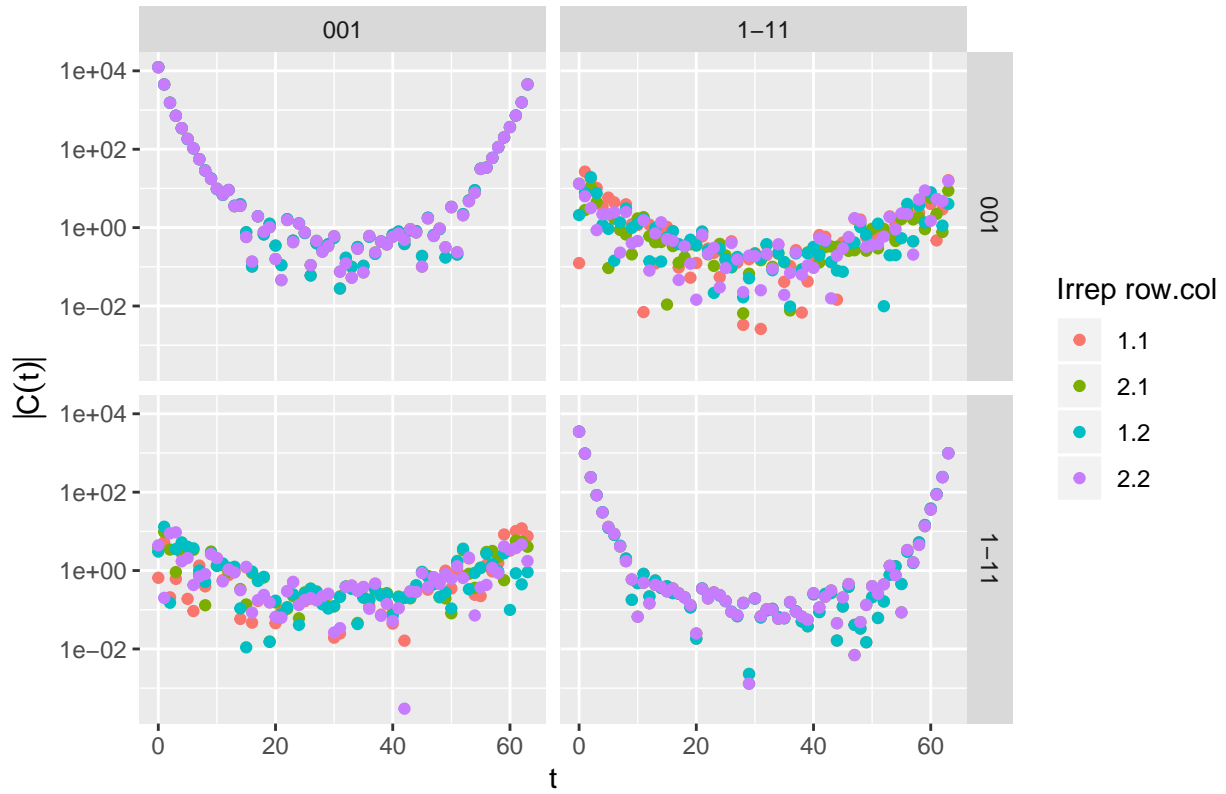


Warning: Transformation introduced infinite values in continuous y-axis

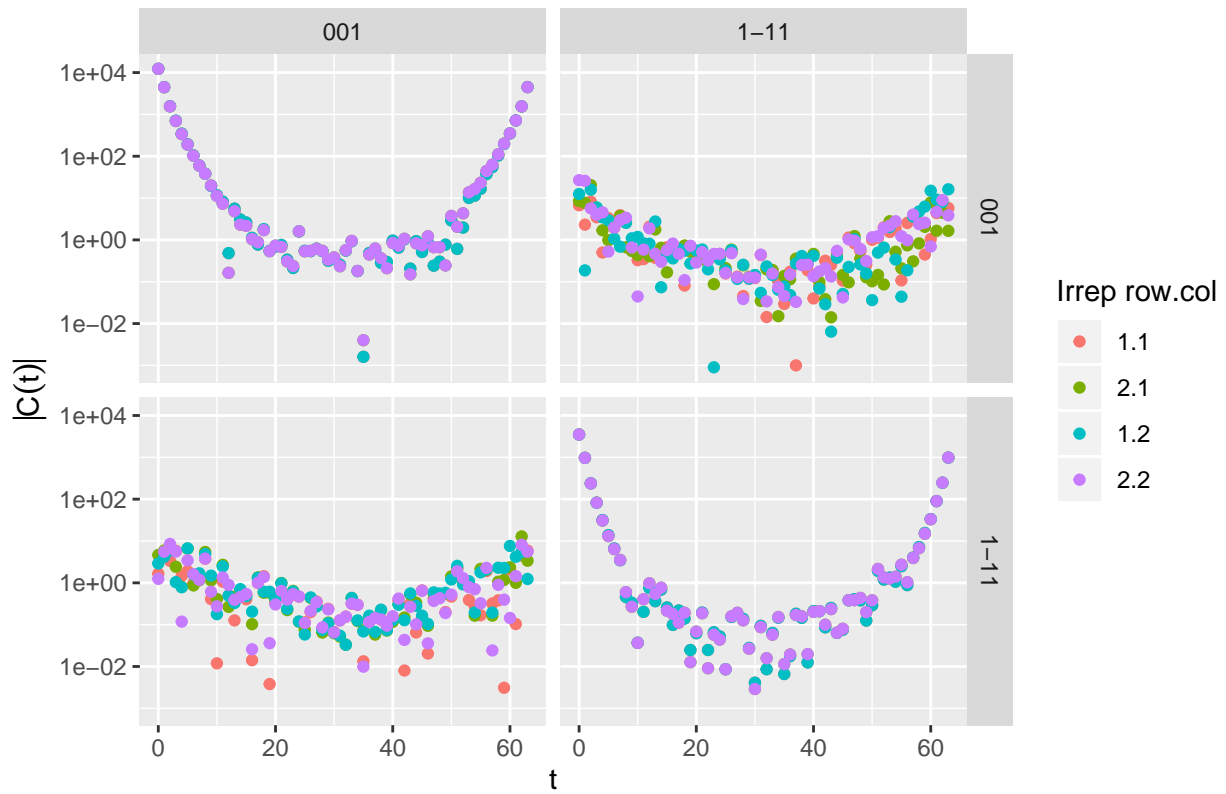
$P^2 = 3$, irrep = E, $P = -1-1-1$



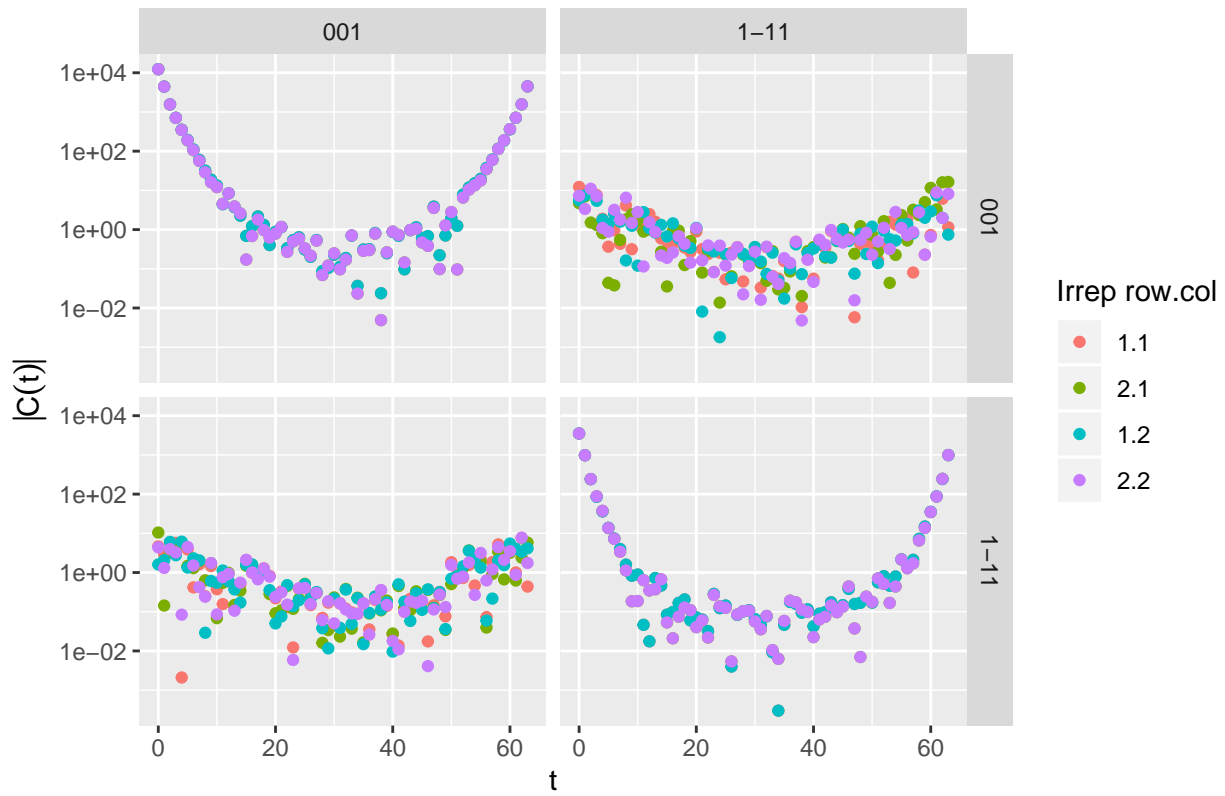
$P^2 = 3$, irrep = E, $P = -1-11$



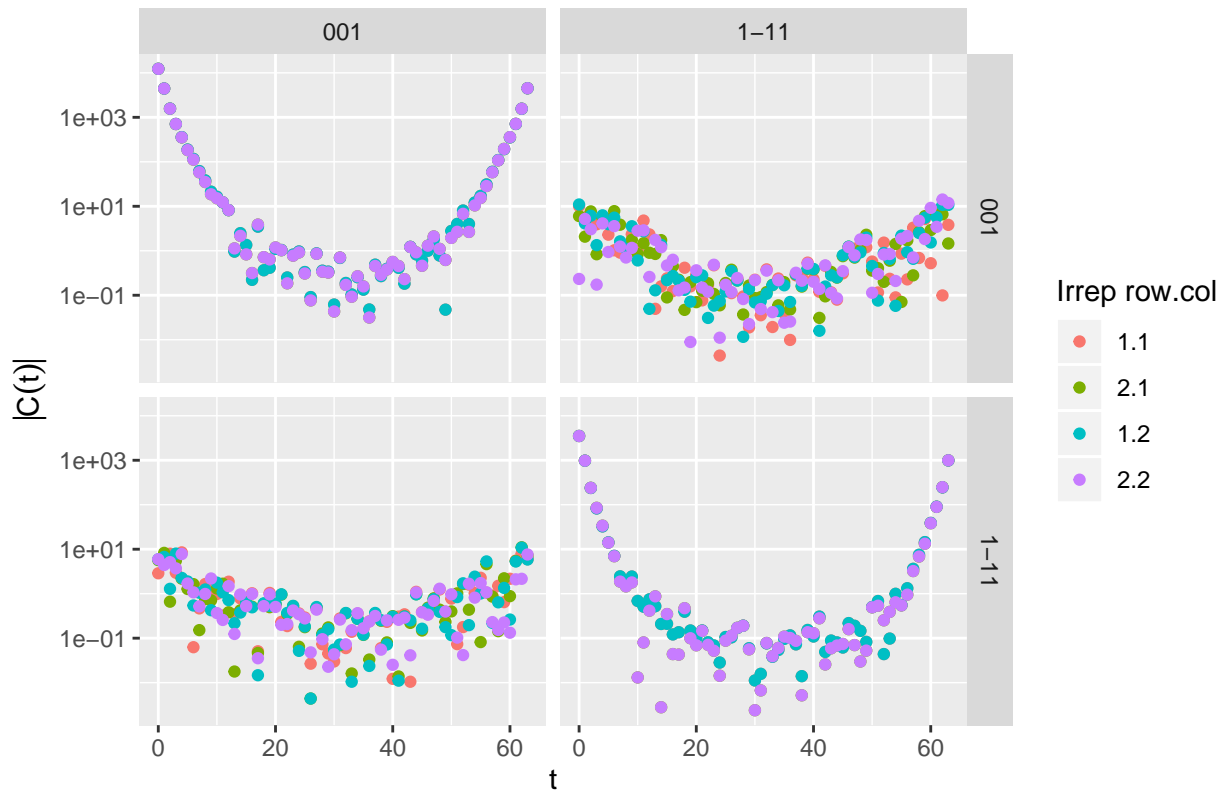
$P^2 = 3$, irrep = E, $P = -11-1$



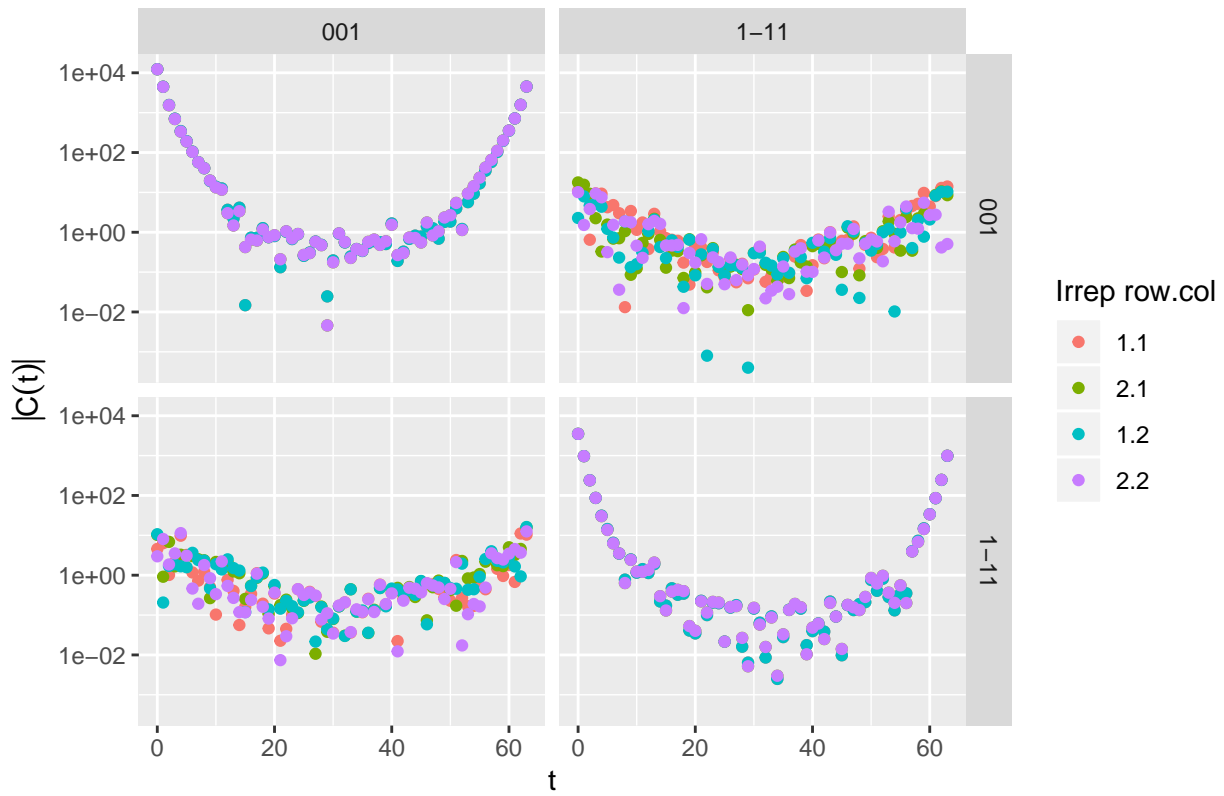
$P^2 = 3$, irrep = E, $P = -111$



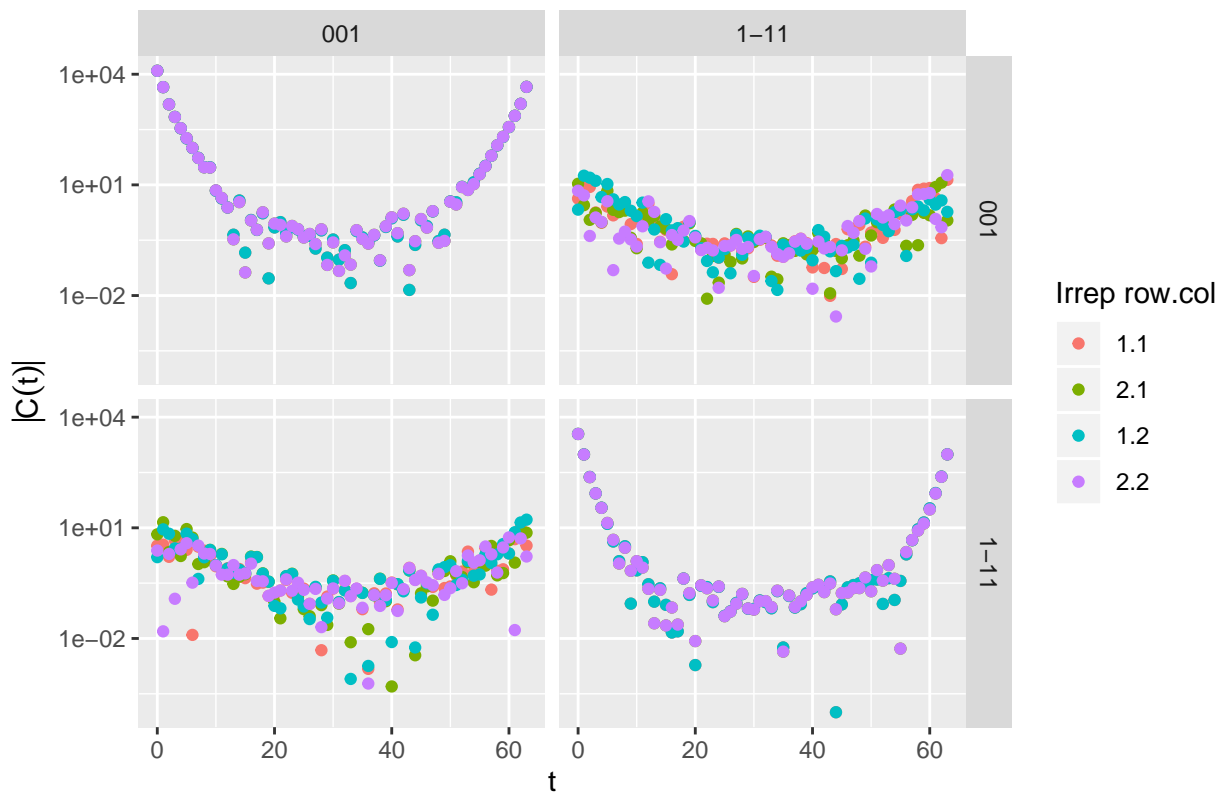
$P^2 = 3$, irrep = E, $P = 1-1-1$



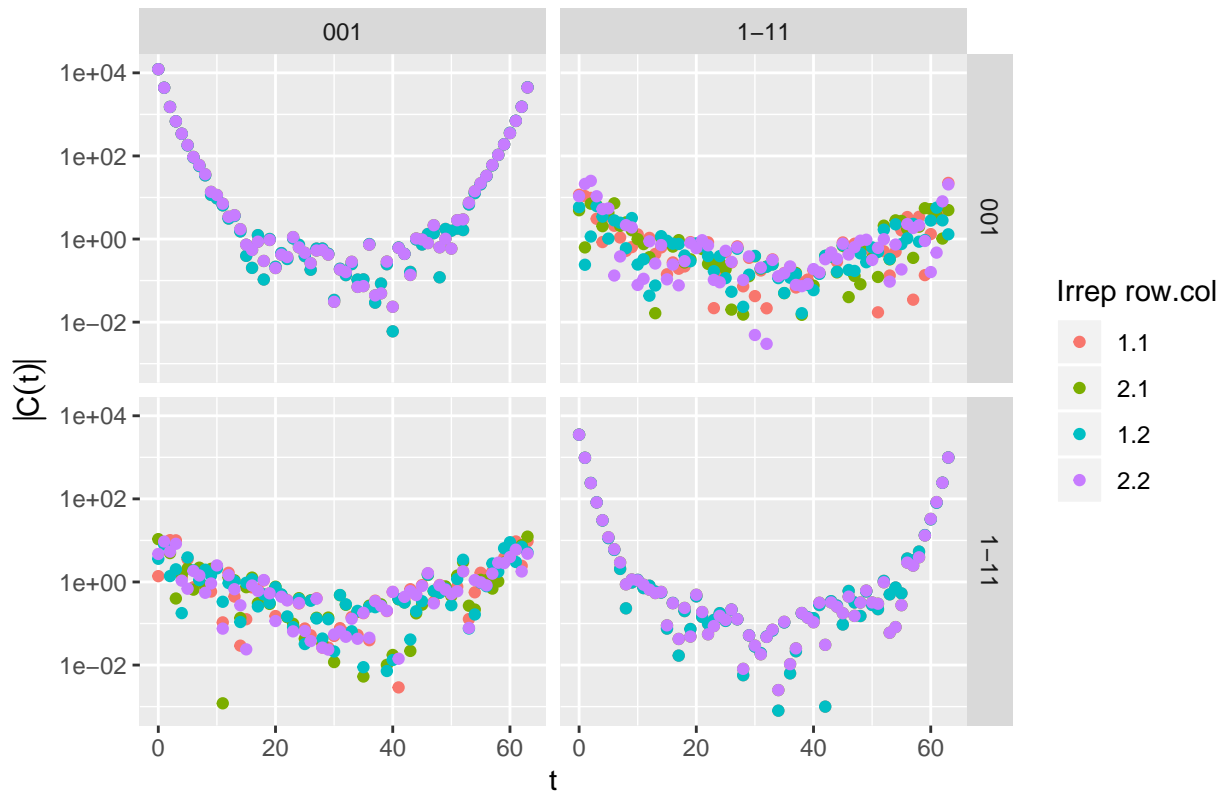
$P^2 = 3$, irrep = E, $P = 1-11$



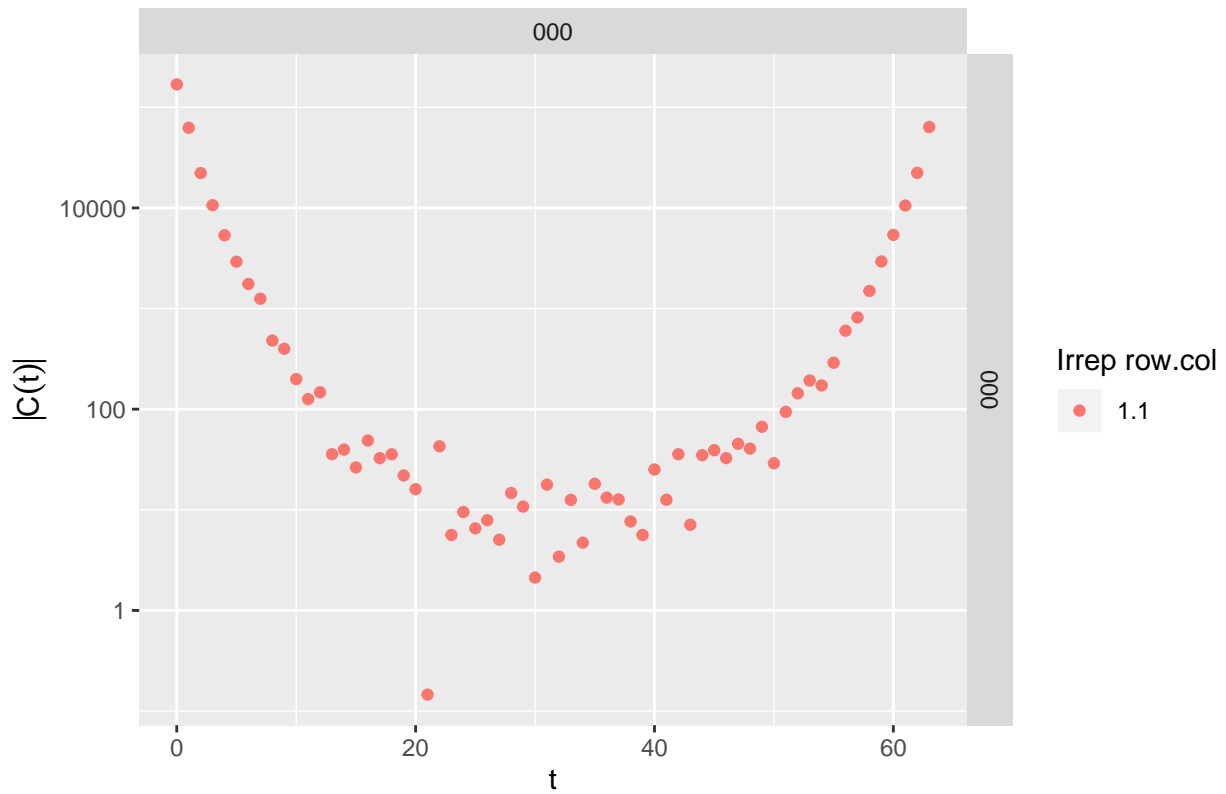
$P^2 = 3$, irrep = E, $P = 11-1$



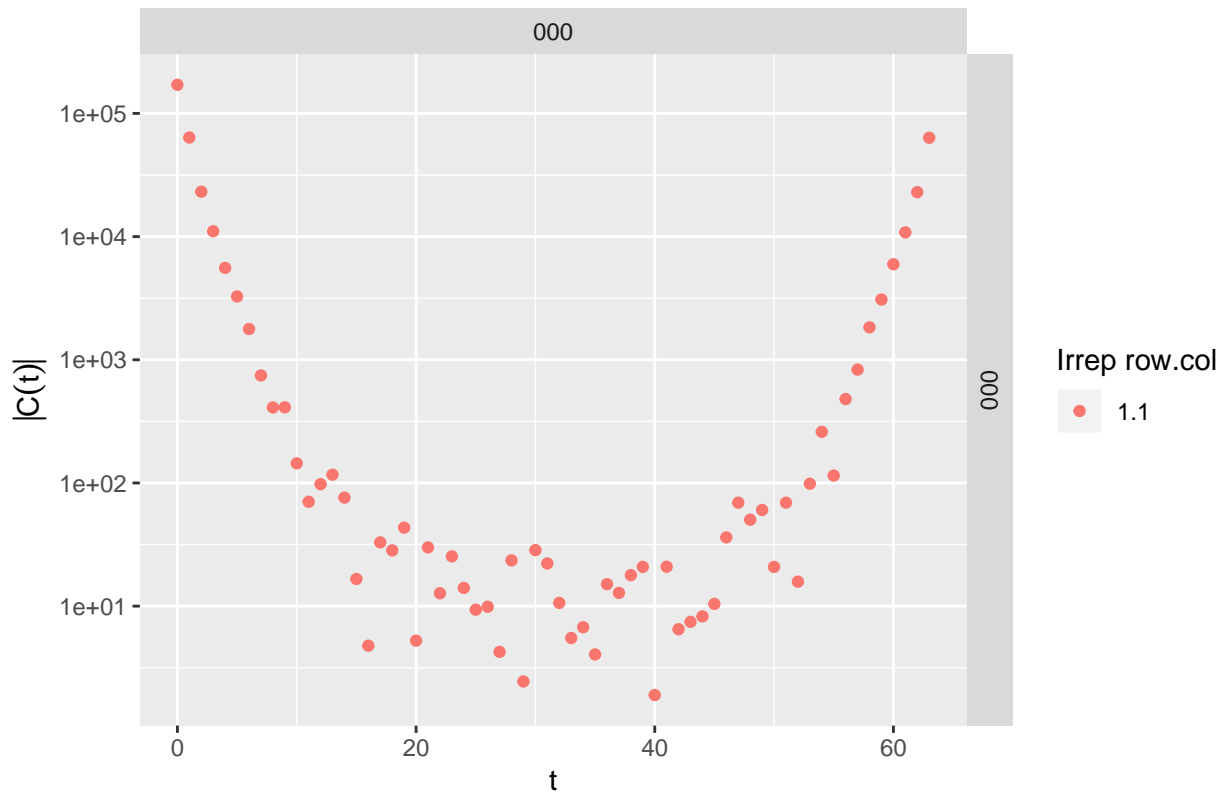
$P^2 = 3$, irrep = E, $P = 111$



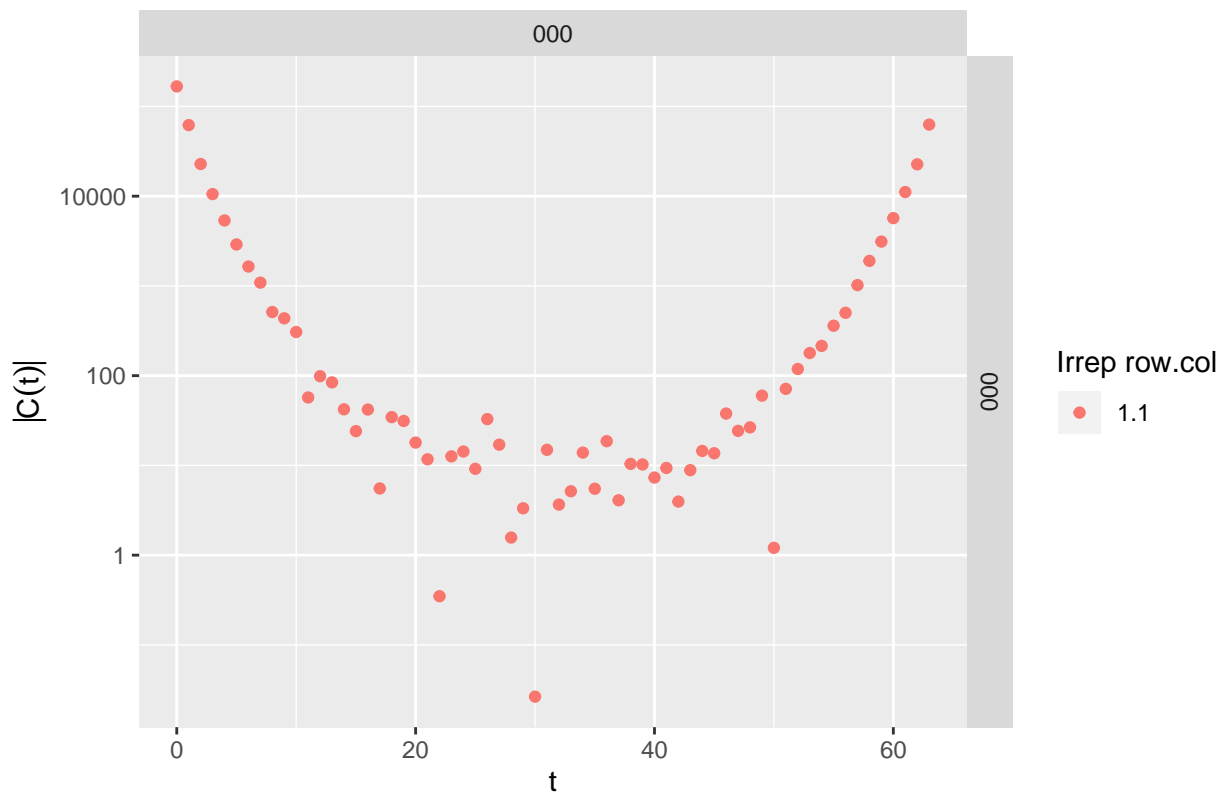
$P^2 = 4$, irrep = A1, $P = -200$



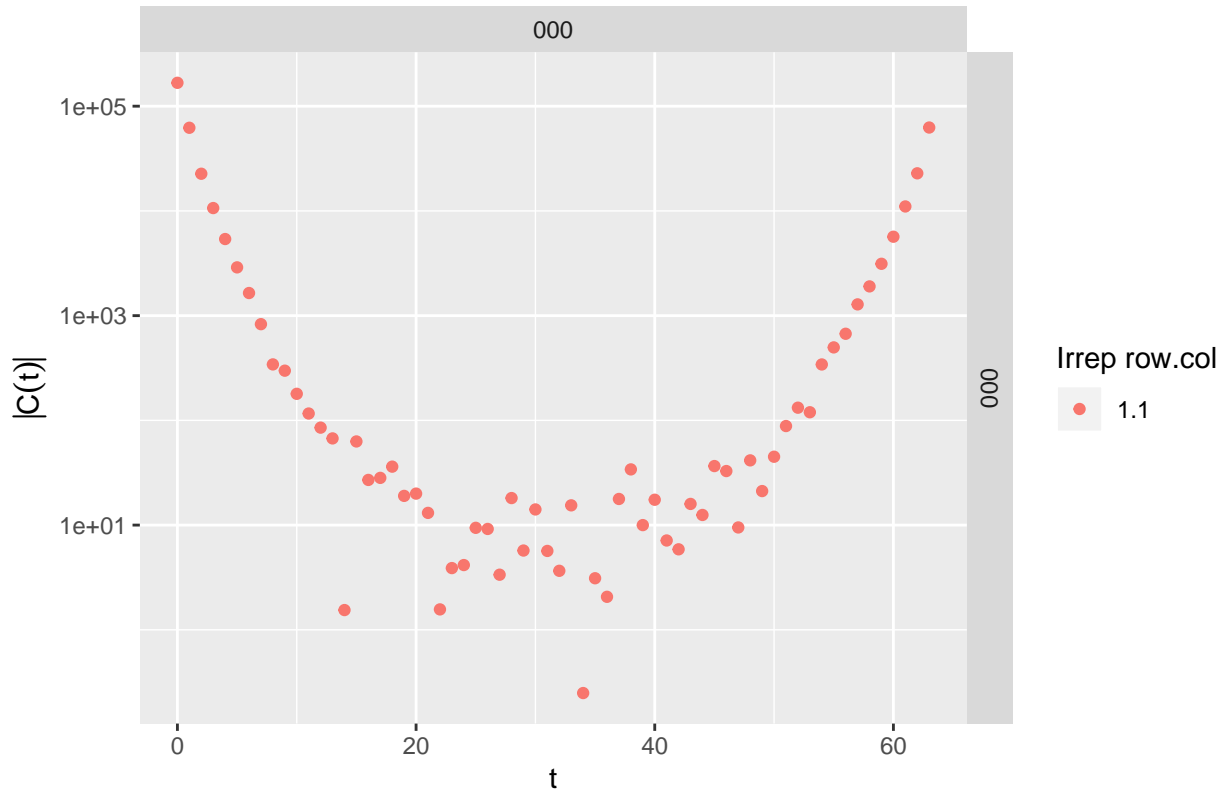
$P^2 = 4$, irrep = A1, P = 0-20



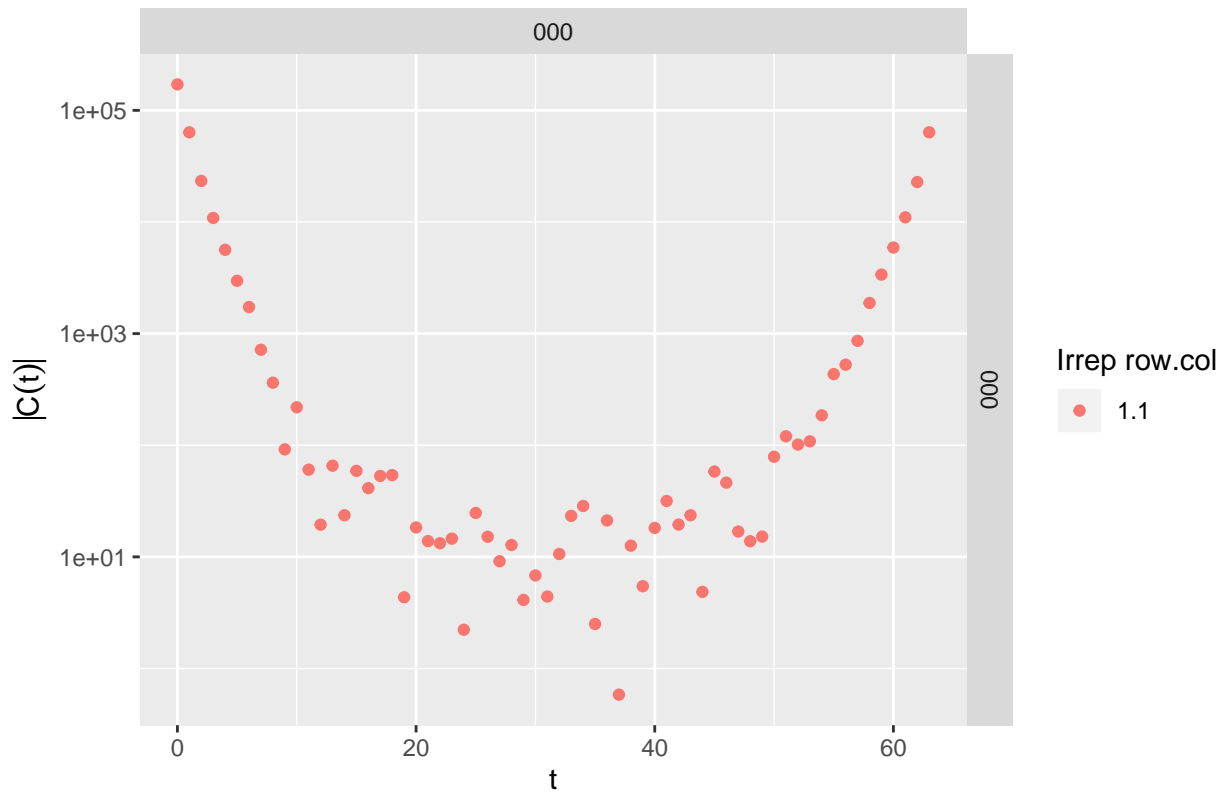
$P^2 = 4$, irrep = A1, P = 00-2



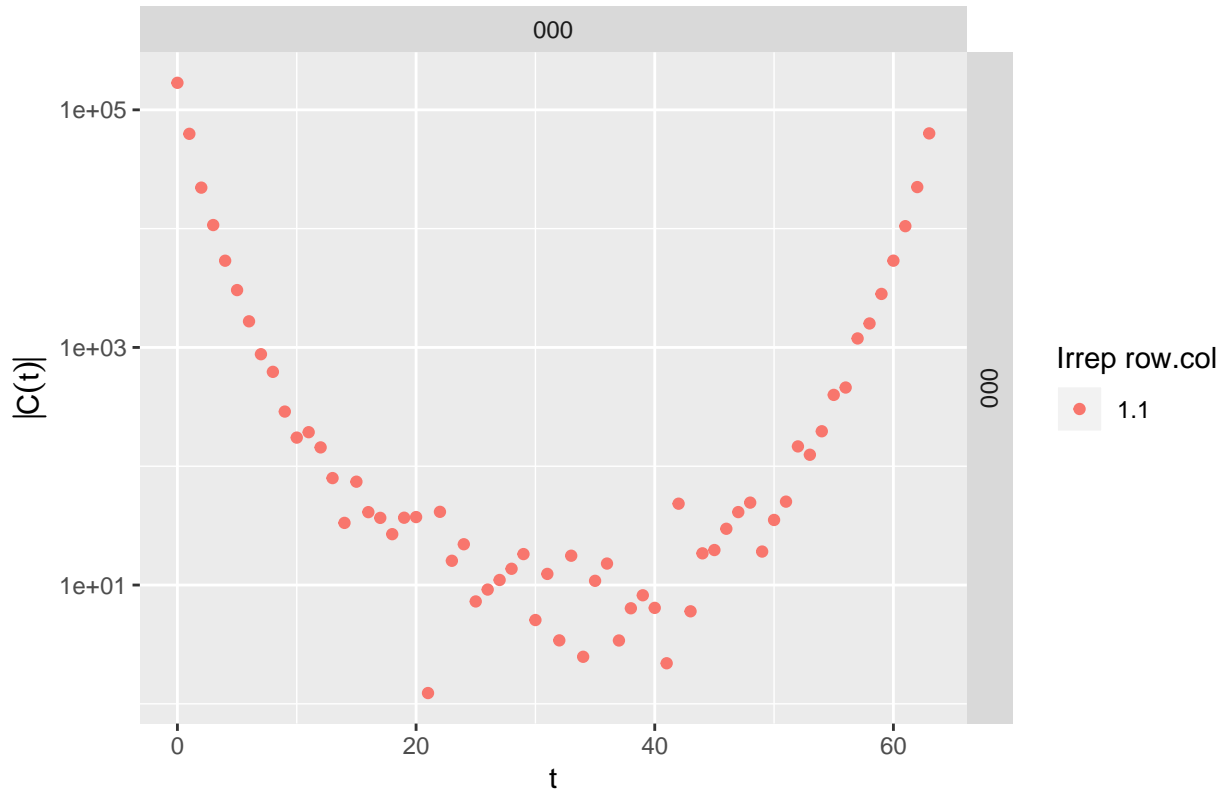
$P^2 = 4$, irrep = A1, P = 002



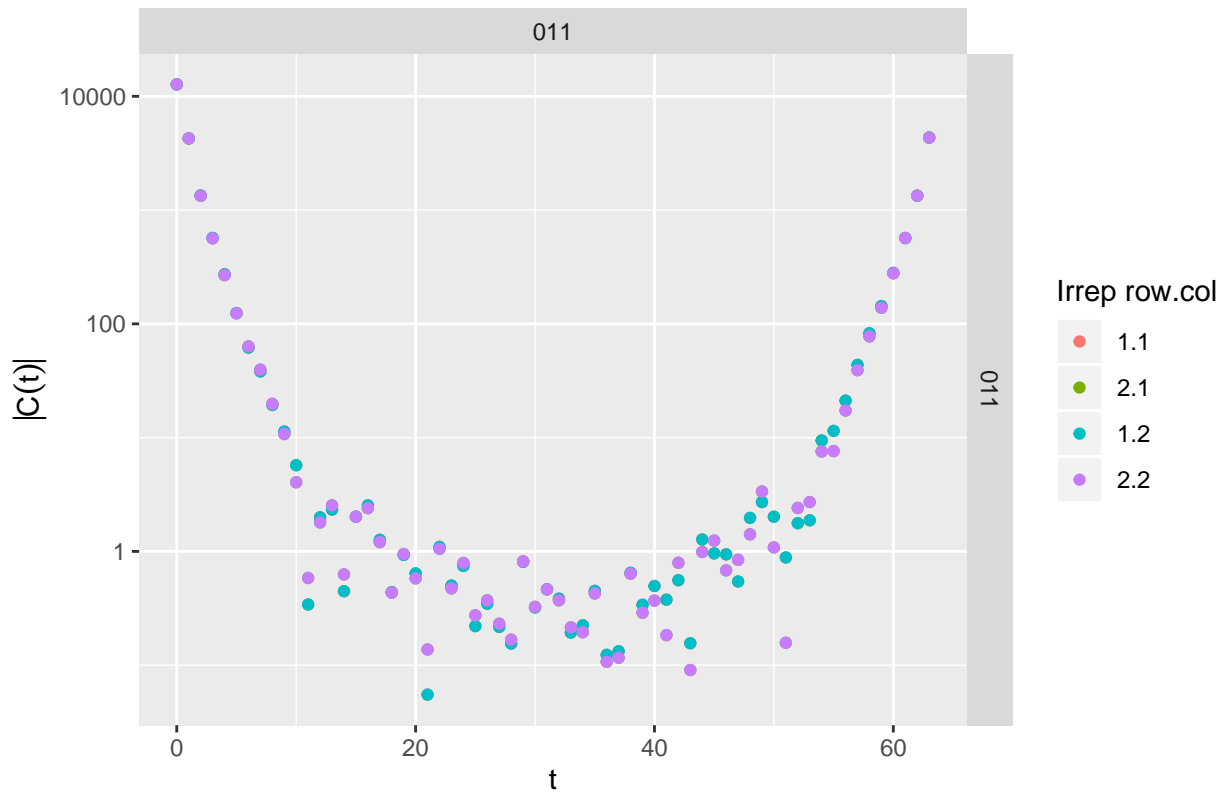
$P^2 = 4$, irrep = A1, P = 020



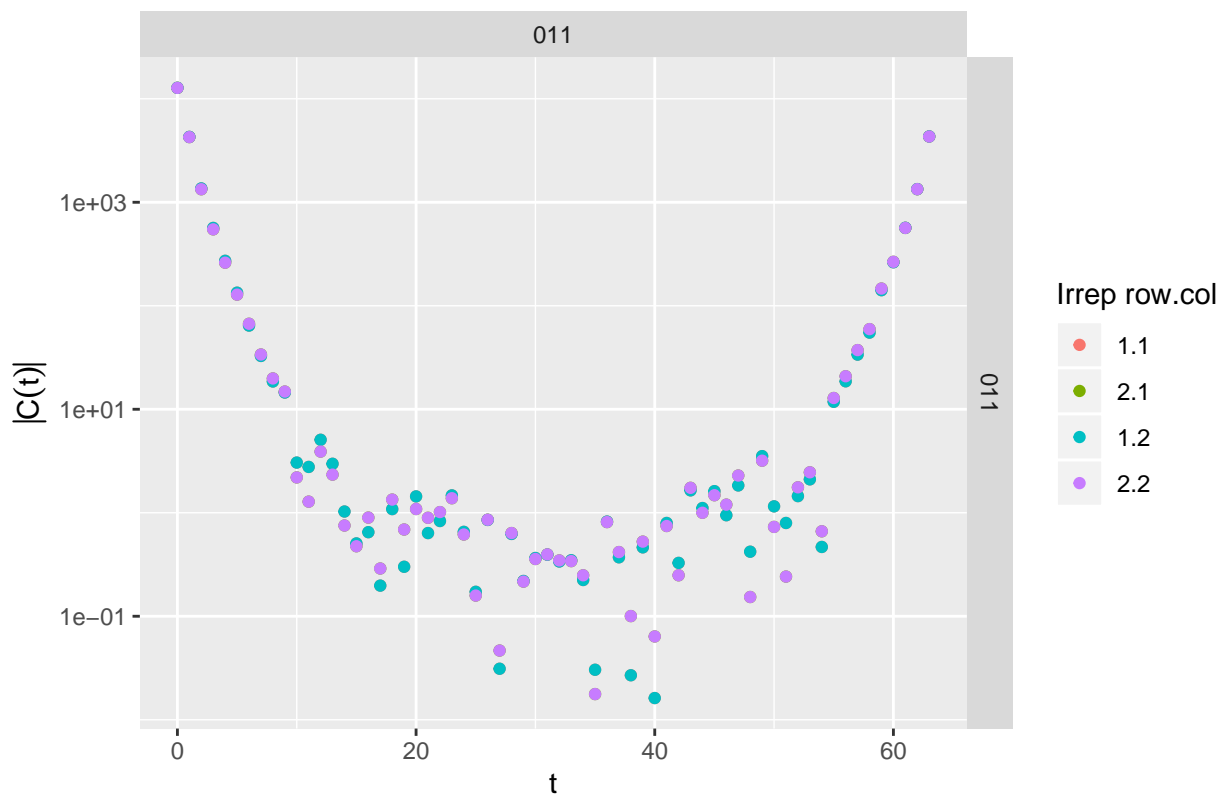
$P^2 = 4$, irrep = A1, $P = 200$



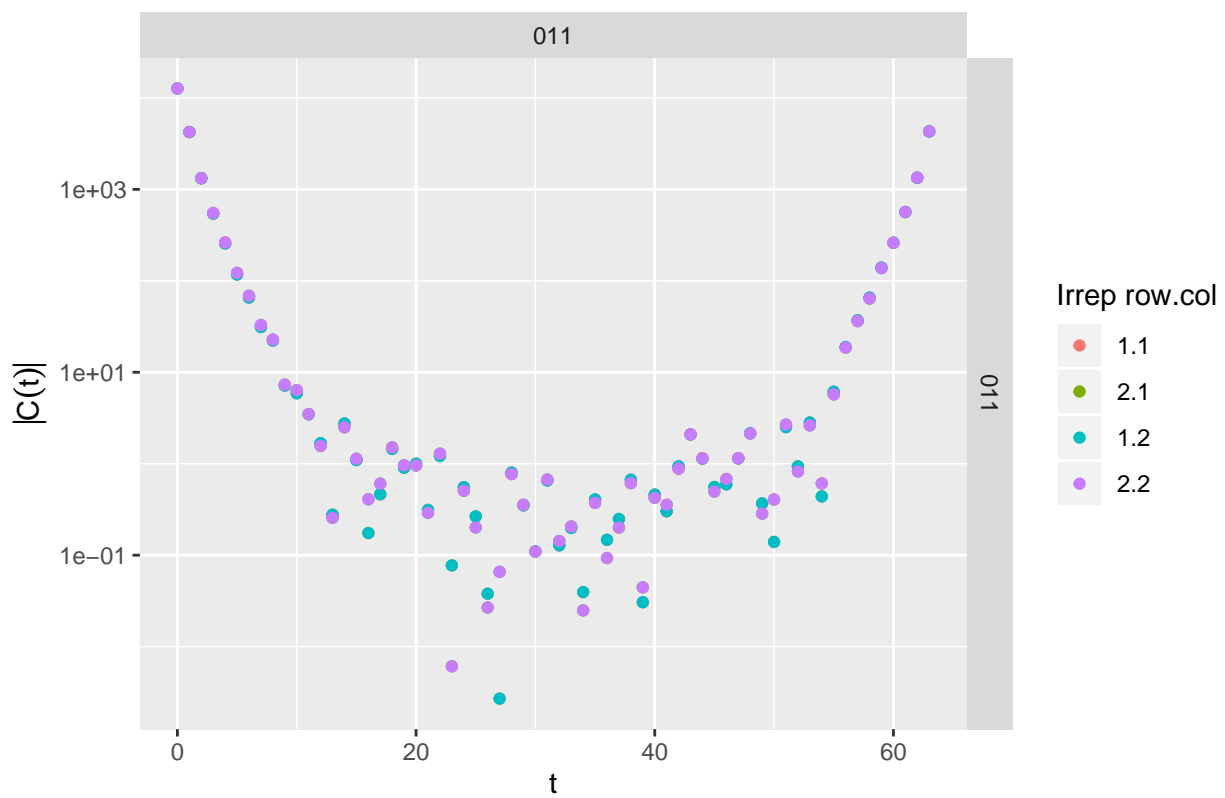
$P^2 = 4$, irrep = E, $P = -200$



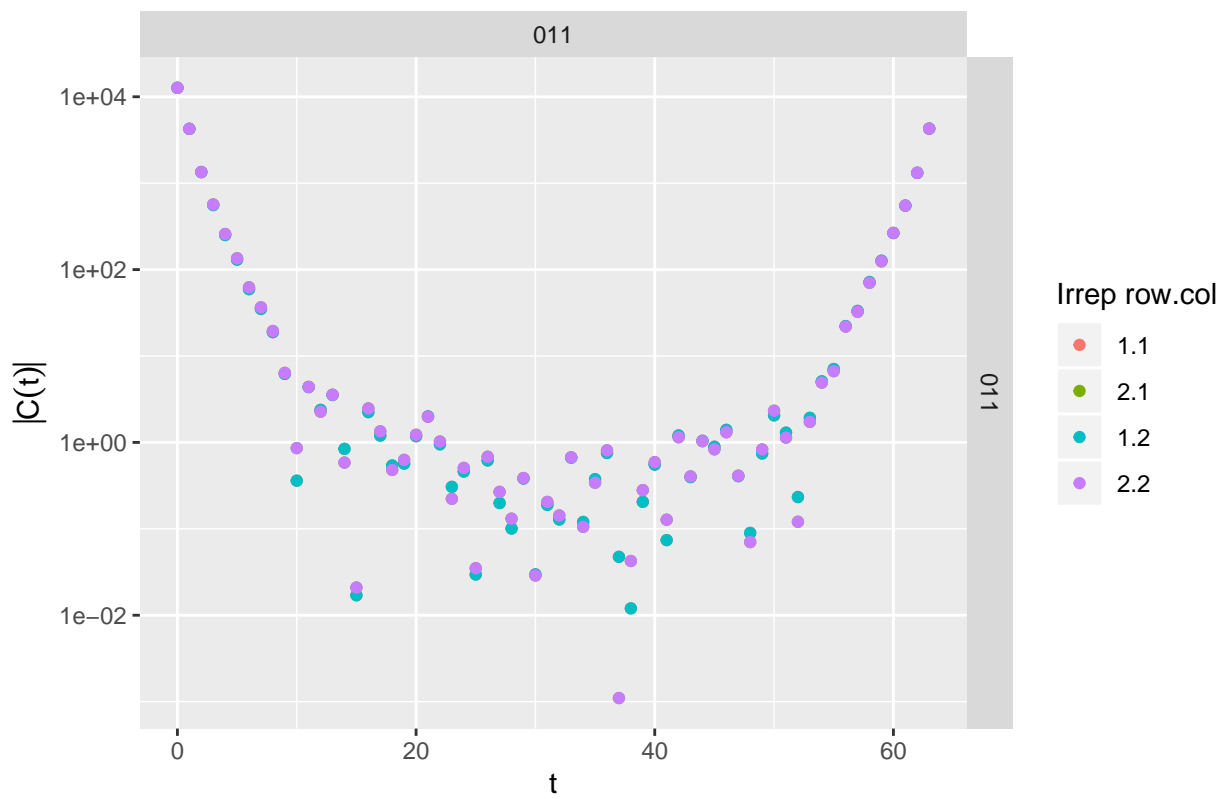
$P^2 = 4$, irrep = E, P = 0-20



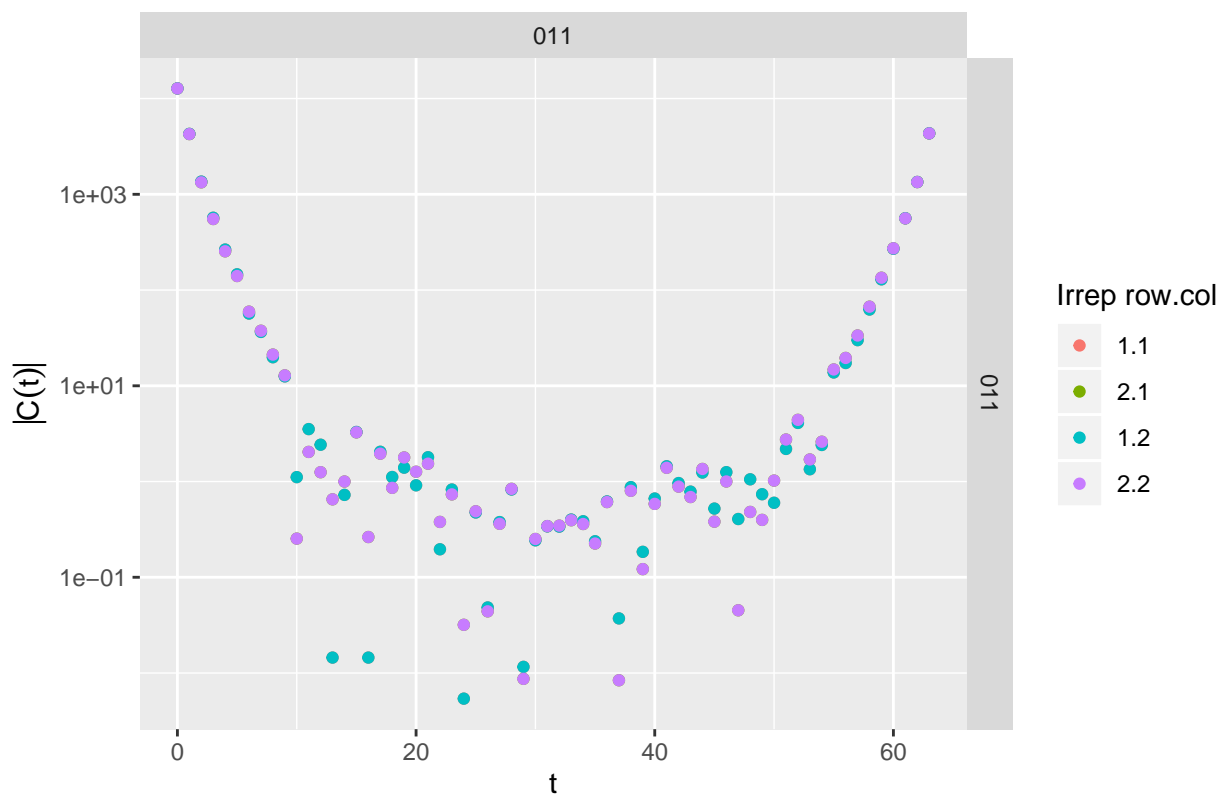
$P^2 = 4$, irrep = E, P = 00-2



$P^2 = 4$, irrep = E, $P = 002$



$P^2 = 4$, irrep = E, $P = 020$



$P^2 = 4$, irrep = E, $P = 200$

