Which part of Confidentiality, Integrity, and Availability (C.I.A.) makes ACID a valid security topic? Justify your rationale.

While the acronyms are different, ACID's transaction properties directly contribute to all three aspects of C.I.A. in database security. Both C.I.A. and ACID deal with crucial aspects of data security. By guaranteeing data isolation, consistency, and durability, ACID ensures confidential, accurate, and readily available data, making it a crucial topic in database security.

Here's how each element of C.I.A. relates to ACID:

Confidentiality: Ensuring authorized access to data aligns with ACID's Isolation property. Transactions isolate data modifications from one another, preventing unauthorized users from seeing partially completed updates.

Integrity: Guaranteeing data accuracy connects to ACID's Consistency. Transactions ensure that data updates follow established rules and maintain its correct state throughout the process.

Availability: Maintaining accessibility of data resonates with ACID's Durability. Transactions ensure that committed updates become permanently persisted, guaranteeing data availability even in case of system failures.

Reference:

Pfleeger, C. P., Pfleeger, S. L., and Margulies, J. (2015). Security in computing (5th ed.). Prentice Hall.