Darkpool Analysis Report for SPY

Analysis Date: 2025-05-29

Timeframe: Past 5 days

Methodology Overview

This analysis uses seven distinct methodologies to identify potential darkpool levels:

High Gamma Imbalance

Identifies strikes with unusually high gamma concentration, indicating potential dealer hedging needs that could be exploited by darkpool participants.

Delta-Gamma Divergence

Identifies strikes where delta and gamma imbalances diverge significantly, suggesting complex positioning that may involve darkpool activity.

Flow Anomaly

Identifies strikes with unusual flow patterns across timeframes, potentially indicating staggered darkpool execution.

Volatility Sensitivity

Identifies strikes with high vanna and vomma exposure, suggesting volatility-based darkpool strategies.

Charm-Adjusted Gamma

Identifies strikes with high gamma that are also sensitive to time decay, indicating potential expiration-related darkpool positioning.

Active Hedging Detection

Identifies strikes with high gamma and high gamma-weighted volume, suggesting active hedging that may be related to darkpool execution.

Value-Volume Divergence

Identifies strikes where value and volume flows diverge significantly, potentially indicating large darkpool participants entering positions.

Identified Darkpool Levels

The following levels were identified as potential darkpool activity zones:

Strike	Methods	Gamma Concentration	Delta Exposure	Flow (15m)	Charm Effect	Vanna Effect	Vomma Effect
500	Value-Volume Divergence, Flow Anomaly, Delta-Gamma Divergence, High Gamma Imbalance, Charm-Adjusted Gamma	3090236.65	-260850.43	288.57	-2157.11	-41136.10	-1461.59
475	Value-Volume Divergence, Delta-Gamma Divergence, High Gamma Imbalance, Active Hedging Detection, Charm-	2880229.43	277340.31	-174.69	-12452.76	-14203.79	6894.76

Strike	Methods	Gamma Concentration	Delta Exposure	Flow (15m)	Charm Effect	Vanna Effect	Vomma Effect
	Adjusted Gamma						
450	Value-Volume Divergence, Flow Anomaly, Delta-Gamma Divergence, High Gamma Imbalance, Active Hedging Detection, Charm-Adjusted Gamma	1554377.40	-547579.00	36.24	24694.49	-12218.44	-11019.62
465	Value-Volume Divergence, Flow Anomaly, Delta-Gamma Divergence, High Gamma Imbalance, Volatility Sensitivity, Charm-Adjusted Gamma	876519.06	-153941.59	-174.84	-8934.56	-6750.46	-17377.64

Strike	Methods	Gamma Concentration	Delta Exposure	Flow (15m)	Charm Effect	Vanna Effect	Vomma Effect
460	Flow Anomaly, Delta-Gamma Divergence, Value-Volume Divergence	476179.27	185673.34	-322.05	13534.29	-4848.51	-13612.84
490	Delta-Gamma Divergence, Volatility Sensitivity, Value-Volume Divergence, Active Hedging Detection	141619.22	129501.43	168.97	13493.02	-5413.92	-8822.90
505	Delta-Gamma Divergence, High Gamma Imbalance, Volatility Sensitivity, Charm-Adjusted Gamma	888218.73	26449.26	-24.71	33492.98	-8427.59	13172.10

Ultra Darkpool Levels

The following three levels have the highest plausibility of significant darkpool activity:

Strike	Plausibility	Methods	Gamma Concentration	Delta Exposure	Flow (15m)	Charm Effect
500	2.6747	Value-Volume Divergence, Flow Anomaly, Delta-Gamma Divergence, High Gamma Imbalance, Charm-Adjusted Gamma	3090236.65	-260850.43	288.57	-2157.11
475	2.5606	Value-Volume Divergence, Delta-Gamma Divergence, High Gamma Imbalance, Active Hedging Detection, Charm-Adjusted Gamma	2880229.43	277340.31	-174.69	-12452.76
450	2.2100	Value-Volume Divergence, Flow Anomaly, Delta-Gamma	1554377.40	-547579.00	36.24	24694.49

Strike	Plausibility	Methods	Gamma Concentration	Delta Exposure	Flow (15m)	Charm Effect
		Divergence, High Gamma Imbalance, Active Hedging Detection, Charm-Adjusted Gamma				

Methodology Relationships

The three ultra darkpool levels were identified through a composite analysis that considers the relationships between different methodologies:

1. **Gamma-Delta Relationship**: High gamma concentration coupled with significant delta exposure indicates potential dealer hedging needs that darkpool participants can exploit.
2. **Flow-Gamma Relationship**: Unusual flow patterns at strikes with high gamma concentration suggest darkpool participants may be positioning around key hedging levels.
3. **Volatility-Time Decay Relationship**: The interaction between vanna, vomma, and charm effects can reveal complex darkpool strategies that exploit volatility regime changes and time decay.

Conclusion

The identified ultra darkpool levels represent the most plausible zones of significant darkpool activity based on a comprehensive analysis of ConvexValue metrics. These levels can serve as key support/resistance zones and may be particularly important for understanding market structure and potential price action.