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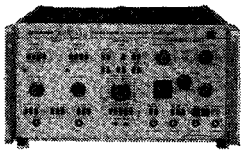
SAI-42A



相関・確率分析器

KANOMAXのSAI-42A相関確率分析器はオールディジタル、しかも高速処理の演算器です。三つの基本動作方式ー相関(自己相関、相互相関)、信号強化(シグナルリカバリー)、確率(確率密度、確率分布)ーをオンライン、実時間計算で処理します。どの動作方式でも計算するポイント数は100点です。SAI-42Aの遅延時間幅$\Delta\tau$の最小は、0.5μsec.すなわち2MHzの率でサンプリングをします。
さらに、1500ポイントまでプリコンピュテーションを延長し、エキスポネンシャル(RC)平均、二進ディジタル出力などを、スタンダードに内蔵させています。

●相関

SAI-42Aは、1点当り、0.5μsecから1secまでの遅延時間幅$\Delta\tau$を選んで自己、相互相関関数の計算ができます。すなわち、合計100点の遅延時間幅にすれば、50μsecから100secまでの相関関数が一時に観察、記録できるわけです。また、合計1500点のプリコンピュテーションディレイを内蔵させていますので、相関関数のラグゼロ値を中心に前後50点づつを観察することもできるとともに、ラグゼロ値をシフトさせて、1600ラグ値付近までの相関関数を観察することも可能です。

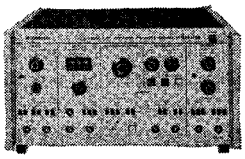
●信号強化

SAI-42Aの信号強化モードを使えば、信号の平均化、すなわち信号強化演算によって、妨害信号を含む信号の繰返しの中から、埋もれている実際の波形を検出することができます。信号は、1点当り0.5μsec～1secの任意に選んだ分解能で100点に分けられます。この1回100点の信号部分を、2^9～2^{17}(任意の加算回数が選べます)回だけ、連続パルスにより順次単純平均することも、エキスポネンシャルで平均することもできます。

●確率

確率分析は波形の振幅特性を即時に表わします。確率密度関数(DENS)は、波形がある限界内に存在する確率を表わし、確率分布関数(DIST)は、波形がある特定のレベルを超えない確率を示します。
確率分析においても、関数は100ポイントで求められます。

SAI-51B



実時間スペクトル分析/ディジタル積分器

スペクトル分析器と同じシャーシに組み込まれたディジタル積分器は、統計的精度、信頼度を良くするために、分析した連続スペクトルの同時積分を行ないます。このような精度の向上により、ノイズに埋もれていた信号の探知や、周期成分とランダム成分との分離などができるようになりました。
(実時間や従来のヘテロダイン方式を問わず) スペクトル分析を完全に行なっても、周期的周波数成分を背後のノイズから抽出するには不充分なことがあります。しかしいくつかのスペクトルを加算すれば、信号対雑音比(S/N比)は加算数の自乗根に比例して強化され、探知が可能になります。実時間手法は、一定時間内に従来方式よりもはるかに多くの分析をすることができますから、実時間手法と結びついたこの統計的精度の向上は、非常に重要な意味を持ちます。

特長

- A/D変換10ビット
- ノイズレベル フルスケールから-70dB
- 入力段受動素子フィルター
- サンプリング速度最大150KHz
- 周波数ビンのディジタル読み出し
- FLATウィンドウとCOSウィンドウの切替可能
- エキスポネンシャル・アベレージング内蔵
- ピークスペクトル比較方式内蔵
- 出力ゲインを2dBステップで較正可能
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